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SMITHSONIAN INSTITUTION
BUREAU OF AMERICAN ETHNOLOGY
BULLETIN 169

RIVER BASIN SURVEYS PAPERS

FRANK H. H. ROBERTS, JR., *Editor*

Inter-Agency Archeological Salvage Program

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LETTER OF TRANSMITTAL

Smithsonian Institution,
Bureau of American Ethnology,
Washington, D. C., March 29, 1957.

Sir: I have the honor to submit the accompanying manuscripts, entitled "Archeological Investigations in the Heart Butte Reservoir area, North Dakota," by Paul L. Cooper; "Archeological Investigations at the Tuttle Creek Dam, Kansas," by Robert B. Cumming, Jr.; "The Spain Site (39LM301), a Winter Village in Fort Randall Reservoir, South Dakota," by Carlyle S. Smith and Roger T. Grange, Jr.; "The Wilbanks Site (9CK-5), Georgia," by William H. Sears; "Historic Sites in and Adjacent to the Jim Woodruff Reservoir, Florida-Georgia," by Mark F. Boyd; "Six Sites near the Chattahootchee River, in the Jim Woodruff Reservoir area, Florida," by Ripley P. Bullen, and to recommend that they be published as a bulletin of the Bureau of American Ethnology.

Very respectfully yours,

Frank H. H. Roberts, Jr.,
Acting Director.

Dr. Leonard Carmichael,
Secretary, Smithsonian Institution.

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EXPLANATION OF THE INTER-AGENCY ARCHEOLOGICAL SALVAGE PROGRAM

The Inter-Agency Archeological Salvage Program is a cooperative plan of the Smithsonian Institution; the National Park Service and the Bureau of Reclamation, Department of the Interior; and the Corps of Engineers, Department of the Army. It was formulated, through a series of interbureau agreements, for the purpose of recovering archeological and paleontological remains which would otherwise be lost as a result of the numerous projects for flood control, irrigation, hydroelectric power, and navigation improvements in the river basins of the United States. Various State and local agencies have assisted in the work. To carry out its part of the joint undertaking, the Smithsonian Institution organized the River Basin Surveys as a unit of the Bureau of American Ethnology. The National Park Service has served as liaison between the various agencies and has provided the Smithsonian Institution with all of the necessary information pertaining to the location of proposed dams and other construction and their priorities. It has also had responsibility for budgeting costs of the program, funds for which are provided in the annual Department of the Interior appropriations. The operations of the River Basin Surveys, Smithsonian Institution, have been supported by funds transferred to it from the National Park Service. Through agreements with the National Park Service, money has also been made available to State and local agencies to supplement their own resources and aid them in their contributions to the program.

Frank H. H. Roberts, Jr.,
Director, River Basin Surveys.

PUBLISHER'S NOTE

A separate edition is published of each paper in the series entitled "River Basin Surveys Papers." Copies of Papers 1–14 are available at the Bureau of American Ethnology, Smithsonian Institution, and can be had free upon request.

RIVER BASIN SURVEYS PAPERS PUBLISHED PREVIOUSLY

No. 1. Prehistory and the Missouri Valley Development Program: Summary Report on the Missouri River Basin Archeological Survey in 1948, by Waldo R. Wedel. Bull. 154, pp. xv–xviii, 1–59, pls. 1–12, fig. 1. 1953.

No. 2. Prehistory and the Missouri Valley Development Program: Summary Report on the Missouri River Basin Archeological Survey in 1949, by Waldo R. Wedel. Bull. 154, pp. 61–101, pls. 13–15. 1953.

No. 3. The Woodruff Ossuary, a Prehistoric Burial Site in Phillips County, Kansas, by Marvin F. Kivett. Bull. 154, pp. 103–141, pls. 16–28, figs. 2–3. 1953.

No. 4. The Addicks Dam Site:
  I. An Archeological Survey of the Addicks Dam Basin, Southeast Texas, by Joe Ben Wheat. Bull. 154, pp. 143–252, pls. 29–47, figs. 4–23. 1953.
  II. Indian Skeletal Remains from the Doering and Kobs Sites, Addick Reservoir, Texas, by Marshall T. Newman. Bull. 154, pp. 253–266, figs. 24–28. 1953.

No. 5. The Hodges Site:
  I. Two Rock Shelters near Tucumcari, New Mexico, by Herbert W. Dick. Bull. 154, pp. 267–284, pls. 48–54, figs. 29–30. 1953.
  II. Geology of the Hodges Site, Quay County, New Mexico, by Sheldon Judson. Bull. 154, pp. 285–302, figs. 31–35. 1953.

No. 6. The Rembert Mounds, Elbert County, Georgia, by Joseph R. Caldwell. Bull. 154, pp. 303–320, pls. 55–56, figs. 36–40. 1953.

No. 7. Archeological Investigations in the Oahe Dam area, South Dakota, 1950–51, by Donald J. Lehmer. Bull. 158, 190 pp., 22 pls., 56 figs., 6 maps. 1954.

No. 8. Excavations in the McNary Reservoir Basin near Umatilla, Oregon, by Douglas Osborne. With appendixes by Marshall T. Newman, Arthur Woodward, W. J. Kroll, and B. H. McLeod. Bull. 166, 250 pp., 40 pls., 6 figs., 19 maps. 1957.

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FOREWORD

The six reports which form the contents of this volume of the River Basin Surveys Papers are based on the results of field investigations carried on as a part of the Inter-Agency Archeological Salvage Program. Three of the articles are concerned with projects in the Missouri Basin and three with studies made in the Georgia-Florida area. Three reservoirs were involved in the Missouri Basin and two in Georgia-Florida. The work at two Missouri Basin reservoirs was done by field parties under the direction of members of the staff of the Missouri Basin Project of the River Basin Surveys, Smithsonian Institution, with funds transferred from the National Park Service. The third party was from the University of Kansas and was operating under a Memorandum of Agreement with the National Park Service whereby some moneys were made available to assist the university in its investigations. One of the projects in Georgia was a cooperative contribution on the part of the University of Georgia which bore the entire cost of the operations. The other two investigations in the Southeast were carried on under Memoranda of Agreement between the National Park Service and the Florida Historical Society and between the Service and the Florida State Museum, University of Florida, with financial assistance from the Service. In each case where a Memorandum of Agreement was concerned, the report submitted was in partial fulfillment of the agreement and received the approval of the Regional Director for the region in which the investigations were made.

The archeological investigations in the Heart Butte Reservoir area in North Dakota were under the direction of Paul L. Cooper and were carried on during the summer field season of 1948. Owing to insufficient funds, it was not possible for Mr. Cooper to accomplish as much as should have been done in that reservoir basin. However, the information and materials which he obtained there do constitute a contribution to the archeological knowledge of the area. The dam has long since been completed and the basin flooded.

The investigations at the Tuttle Creek Dam in Kansas were under the supervision of Robert B. Cumming, Jr., a member of the Missouri Basin Project staff. The particular excavations which Mr. Cumming made were truly of a salvage nature, because the sites tested were on the dam axis and construction work was then under way. Lack of funds and sufficient time prevented more extensive investigations, but the results obtained were better than expected. The Tuttle Creek area is receiving further attention, and before the dam is completed and the basin is flooded good information should be obtained from the numerous sites located in that area.

The excavations at the Spain site in the Fort Randall Reservoir area in South Dakota were supervised by Dr. Carlyle S. Smith of the University of Kansas, assisted by Roger T. Grange, Jr., who at that time was associated with the Chicago Natural History Museum. The work was carried on during the summer field season of 1953 and most of the members of the party were college students. Dr. Smith and Mr. Grange completed their report in July 1954 and submitted it to the Regional Director of Region Two of the National Park Service at Omaha, Nebr. After its subsequent acceptance and approval the manuscript of the report was submitted to the River Basin Surveys of the Smithsonian Institution for publication. In view of the delay in sending the report to the printer, it was returned to Dr. Smith in the autumn of 1956 so that he might make certain revisions and bring his conclusions up to date. He returned the revised manuscript to the River Basin Surveys in December 1956. The report on the Spain site provides new and useful information on certain archeological aspects in that portion of the Missouri Basin. The Fort Randall Dam was closed in the summer of 1953 and the site is now under water.

When it appeared that funds for archeological excavations in the Allatoona Reservoir area in Georgia might not be forthcoming in time to salvage information from sites in the construction area for the dam, the University of Georgia provided for some digging at one of the more important locations and a party under the direction of Dr. William H. Sears, then associated with the Department of Anthropology at the university, conducted excavations there in 1949. That site is now beneath some 90 feet of water. Subsequently funds were appropriated and transferred from the National Park Service to the Smithsonian Institution and an extensive series of excavations in the Allatoona Reservoir area got under way. Two parties from the River Basin Surveys excavated 11 additional sites and tested 19 others. Originally it was contemplated to include Dr. Sears' report in the major publication on the Allatoona Reservoir. Because of the size of the main report and the attendant delay in arranging for its printing, it was deemed best to make Dr. Sears' results available at this time rather than to hold them indefinitely. The cooperation of the University of Georgia was indeed helpful at a critical period in the Allatoona basin investigations, and the results obtained add a useful chapter to the Allatoona story as a whole.

The study by Dr. Mark F. Boyd of the historic sites in the Jim Woodruff Reservoir area in Florida and Georgia is the first report based mainly on historical records and evidence to be issued in the River Basin Surveys Papers. Reports of investigations at historic sites in other areas will be issued in later bulletins. While not as much mention has been made of the historic aspects of the salvage program as of those pertaining more to the aboriginal remains, they nevertheless are an important part of the overall investigations and a number of studies of that nature are being carried forward in various reservoir basin areas. Dr. Boyd's project was sponsored by the Florida Historical Society under a Memorandum of Agreement with Region One of the National Park Service. In commenting upon the report by Dr. Boyd when it was forwarded to the Region One office, the President of the Florida Historical Society stated that in the opinion of the society the report was an important contribution to the preservation of the history of that area. The report was accepted and approved by the Regional Director and was subsequently released to the River Basin Surveys for publication in the present volume.

The archeological investigations pertaining to aboriginal sites made along the Chattahoochee River in the Florida portion of the Jim Woodruff Reservoir area were under the direction of Ripley P. Bullen of the Florida State Museum and were carried on under a Memorandum of Agreement between the National Park Service and the University of Florida. The field work was done in June 1953. The report was completed and submitted to the Region One office of the National Park Service and was accepted and approved by the Regional Director in December of that year. Early in 1954 the manuscript was released to the River Basin Surveys. New information developing in the interim between its receipt and scheduling for publication made certain additions and revisions advisable and it was returned to Mr. Bullen who resubmitted the new draft in October 1956. Plans were to include both Mr. Bullen's and Dr. Boyd's reports in a general publication on the Jim Woodruff Reservoir area which would include the reports on archeological investigations in Indian sites in the Georgia portion of the basin. One series of excavations there was carried on by the National Park Service and another by a member of the staff of the River Basin Surveys. Since there has been some delay in completing those reports, it has been deemed advisable to issue the papers by Dr. Boyd and Mr. Bullen in the present volume.

FRANK H. H. ROBERTS. JR.,
Director, River Basin Surveys.

SMITHSONIAN INSTITUTION
Bureau of American Ethnology
Bulletin 169

River Basin Surveys Papers, No. 9

Archeological Investigations in the Heart Butte Reservoir Area, North Dakota

By PAUL L. COOPER

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ARCHEOLOGICAL INVESTIGATIONS IN THE HEART BUTTE RESERVOIR AREA, NORTH DAKOTA [1]

By Paul L. Cooper

FOREWORD

The investigations upon which this report is based were carried out as a part of the inter-agency salvage program in the Missouri Basin and reflect the cooperation of a number of agencies and individuals. The work was instigated by the plan of the Bureau of Reclamation to construct the Heart Butte Dam, a unit of the comprehensive water-resources development program under the Pick-Sloan plan. The dam, now completed, is on the Heart River south of Glen Ullin, N. Dak., and is designed to create a reservoir of almost 11,000 acres at its maximum elevation of 2,118.2 feet above mean sea level. In August of 1946, J. Joseph Bauxar and the writer, archeologists with the Smithsonian Institution River Basin Surveys, spent 2 days in reconnaissance of a small part of the area that would be flooded if the proposed Heart Butte Dam was constructed. Only a few sites were recorded, but one of these, the Koehler site, was deemed sufficiently important to require intensive investigation. Rather exhaustive excavation of this site and additional survey of the reservoir were recommended in an appraisal report.[2] In 1947, under an agreement with the Smithsonian Institution, the University of North Dakota Field Session in Archaeology, cosponsored by the State Historical Society of North Dakota, devoted a week, June 25 to July 1, to the Heart Butte Reservoir area. The party of 8, supervised by Dr. Gordon W. Hewes, excavated 8 test pits, each 5 feet square, in the Koehler site and found a few previously unrecorded sites in the vicinity. The limited tests in the Koehler site confirmed the earlier judgment that full-scale excavation would be worth while. In 1948, with the dam already under construction, limited funds were available for further investigations there by the Smithsonian Institution. These funds were far less than the amount recommended as necessary for an adequate sampling of the archeological remains that were to be destroyed, and permitted only 7 weeks in the field with a party of from 2 to 4

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[1] Manuscript submitted July 1954.

[2] Preliminary appraisal of the archeological and paleontological resources of Heart Butte Reservoir, Grant County, N. Dak., June 1947, prepared by River Basin Surveys, Smithsonian Institution, for Missouri Basin Recreation Surveys, Region Two, National Park Service.

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individuals. Approximately 12 man-days were devoted to reconnaissance, 2 man-days to the investigation of a rock shelter near the dam site, and the remainder of the time to work in the Koehler site. The little more than 100 man-days spent in excavation, recording, mapping, and refilling trenches at this site represent about 20 percent of the original estimate of the time that would be required for investigation on a desirable scale.

The writer arrived in the Heart Butte area June 12, 1948, and was assisted in reconnaissance until June 19 by the late Thad. Hecker, of the State Historical Society of North Dakota. Robert L. Hall and Warren L. Wittry, then students at the University of Wisconsin, reported on June 22 and worked for the remainder of the time spent in the area. Vernon Gerving of Glen Ullin, employed from July 6 to July 30, completed the roster of paid workers. The writer's wife, Dorothy Thurlow Cooper, was with the party after July 1 and assisted in the field. Most of the time after June 22 was devoted to the Koehler site, but between July 20 and the termination of the Heart Butte operations on July 31 the investigations in the rock shelter were accomplished and some reconnaissance was carried out.

In addition to the workers in the field, all of whose services were eminently satisfactory, a number of individuals, as well as several agencies, have been of assistance in various ways. Funds to carry on the investigations were transferred to the River Basin Surveys by the National Park Service. Personnel in the Bismarck and Glen Ullin offices of the Bureau of Reclamation freely provided information and maps. Camping space and other facilities were made available at the Government camp in Glen Ullin. W. W. Brenner, construction engineer, and B. L. Mendenhall, field engineer, both of the Heart Butte project office, were especially helpful. Landowners in the area of investigation and various residents of Glen Ullin were uniformly cooperative and rendered assistance of various kinds. We are especially indebted to August Koehler, owner of the site to which we have given his name, for permission to excavate on his property and for other courtesies, and to W. F. Salzer, a resident of the reservoir area, who guided us to sites and presented the River Basin Surveys with specimens which he had collected in the vicinity. Dr. Hewes supplied us with information relative to his investigations and made helpful suggestions based on his experience in the Koehler site. The State Historical Society of North Dakota, through its superintendent, Russell Reid, not only made the services of Mr. Hecker available for several days, but also has loaned the Surveys the specimens collected and records made by Dr. Hewes in 1947. Material assistance was provided by Alan Woolworth of the Historical Society staff.

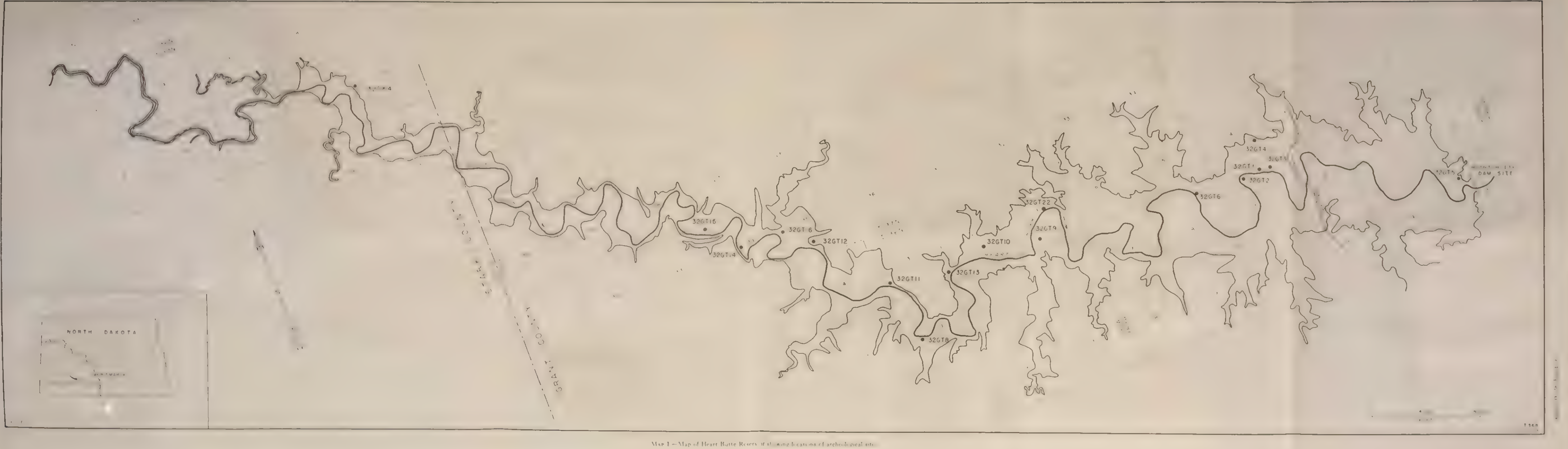
Identifications of the unworked bones from the Koehler site were made by Dr. Theodore E. White, paleontologist with the River Basin

Surveys, and of the mollusks by Dr. J. P. E. Morrison, of the United States National Museum. Dr. Charles M. Riley, Department of Geology, University of Nebraska, assisted in the identification of the stone material, and Dr. C. Bertrand Schultz, director of the University of Nebraska State Museum, identified the worked bone. Members of the laboratory staff of the River Basin Surveys headquarters in Lincoln were instrumental in the production of this report in diverse ways. Raymond S. Price prepared the final copies of the map, ground plan, and profiles, and Nathaniel L. Dewell photographed the artifacts.

INTRODUCTION

The Heart River rises in Billings County, N. Dak., only a few miles from the northward-flowing Little Missouri River, and follows a tortuous course to its confluence with the Missouri at Mandan, approximately 120 miles due east. Its total length lies within the Missouri Plateau section of the Great Plains Province (Fenneman, 1931, pp. 71–79), which is characterized by rolling uplands relieved by isolated mountains, buttes, and sections of badlands and by terraced valleys of streams that, with their tributaries, have dissected the general surface. The area which is now covered by the Heart Butte Reservoir and is the subject of this report lies about 50 miles by air from the mouth of the Heart River, considerably less than the channel distance between the two points. The outcropping bedrock here belongs to the Paleocene Fort Union formation, which consists of a basal zone of fine sand overlain by zones of shale, clay, and sand. Lignite deposits of considerable extent occur in this formation and there are small mines nearby which produce this material for local use. A conspicuous feature of exposures in road cuts and elsewhere is the frequent presence of brick-red deposits of various thicknesses, apparently the result of the heat generated by natural burning of the lignite beds. Silicified wood (probably similar or identical to so-called "Knife River flint") is reported to be associated with almost all of the Fort Union beds in the immediate vicinity, though not in great quantity (Tisdale, 1941, p. 14). At several localities there are limited zones in the basal sand which are cemented and much more resistant than the surrounding materials. These concretions, typically elliptical in shape and frequently of considerable size, are responsible for shallow rock shelters where they outcrop on the slopes (see pl. 12, *a*, *b*). There are a few scattered patches of extensively weathered glacial till and occasional erratics in the area (Tisdale, 1941, p. 6).

In the reservoir area, the Heart River, a perennial stream, meanders in a relatively wide, flat-floored valley lying approximately 200 feet below the rolling, treeless uplands into which it is incised (map 1; pl. 1, *a*). The stream, which is easily forded by car in places except during times of flood, has an average fall of approximately 0.6 foot per mile (Leonard, 1912, p. 29). All the tributaries in the area are relatively short and are intermittent. The shallow river channel is cut into alluvium, but where it swings against the main valley walls there are sheer bluffs composed of bedrock, ordinarily the basal sand of the Fort


STARK COUNTY
GRANT COUNTY
NORTH DAKOTA
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32GT14
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32GT8
32GT10
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32GT9
32GT6
32GT4
32GT1
32GT3
32GT2
32GT5
DAM SITE

Map 1.—Map of Heart Butte Reservoir showing locations of archeological sites.

Union formation. The predominant vegetation, even today, is grass, and trees occur only in a sparse fringe along the course of the Heart River, in the valleys of the tributaries, and occasionally in favored spots on the main valley floor and the lower slopes. The commonest trees are ash, elm, and boxelder; there are some cottonwoods along the river and chokecherries are locally abundant.

Lying within the Saskatchewan biotic province (Dice, 1943, pp. 24–26), the region has a predominant vegetation of mixed short and mid-height grasses which undoubtedly once supported abundant herds of grazing animals. While very early descriptions of the faunal resources of the immediate vicinity are apparently lacking, the chroniclers of various early 19th-century expeditions along the Missouri River (e. g., the Lewis and Clark and the Atkinson-O'Fallon Expeditions) recorded observation of vast herds of bison and numerous other mammals such as elk, deer, bears (including grizzly bears), and wolves.

The climate of the region is characterized by long, cold winters, hot summers, rather scanty rainfall, and a mean growing season of approximately 120 days. During the period of record at Carson, N. Dak., some 20 miles southeast of the reservoir area, the mean annual precipitation has been 15.68 inches, and the maximum and minimum temperatures have been 116° and −43° F. respectively. Average temperatures are 10.7° for January and 70.5° for July. At Dickinson, which is more than 100 miles northwest of Carson but has a very similar climate, the extremes in growing season during the 40 years of record have been 62 and 164 days. There are favorable factors in the climate of the region that tend to counterbalance the brevity of the growing season and the scantiness of precipitation. These are, on the one hand, the long hours of daylight during the summer months and, on the other, a relatively low rate of evaporation and the fact that a large proportion of the annual precipitation occurs during the growing season (approximately 70 percent during the months of April through September). The prevailing winds at all seasons of the year are from the northwest. On the average, the climate here does not compare unfavorably with that of stations along the Missouri River, where native horticulture is known to have been practiced, but, at least in recent times, there have been occasional years when the frost-free season was exceedingly brief. The Heart Butte vicinity would seem to have little to offer in the way of a location for an aboriginal group seeking a place to settle and raise crops, but it would provide eminently suitable camping locations for groups engaged in the hunt.

Reported archeological investigations antedating those described here are lacking for the immediate area and are rare for the region west of the Missouri River in the Dakotas. This is not surprising, in view of the spectacular nature of the remains to the east and the relatively minor attention that has been given the archeological situation in the northern Plains generally. Previous to the current salvage program, under which the areas for investigation are dictated by the plans of the dam construction agencies, most of the limited archeological research has been understandably directed toward the more intensively occupied banks of the Missouri River and of the streams in the eastern parts of North and South Dakota. Since the confluence of the Heart River with the Missouri is not more than approximately 50 miles from the Heart Butte vicinity, it is reasonable to suppose that at least some of the remains here might relate to sites in the immediate valley of the Missouri. Much of the reported work in the latter area has consisted of surface surveys (Will, 1924; Will and Hecker, 1944), but excavations have been accomplished in a few sites, notably in the contact-period Slant (or Old Fort Abraham Lincoln) and Double Ditch (or Burgois) sites near the mouth of the Heart River (Will and Spinden, 1906; Strong, 1940, pp. 360–365). These two sites have been attributed to the Mandan by the investigators. West of the Missouri River in areas immediately adjacent to North Dakota, two sites showing relationships to complexes on the Missouri River have been investigated and reported. These are the Hagen site, on the Yellowstone River near Glendive, Mont. (Mulloy, 1942), and Ludlow Cave, near the headwaters of the Grand River and about 20 miles from the Little Missouri River in the extreme northwestern corner of South Dakota (Over, 1936; Strong, 1940, p. 384). The excavations in the former revealed a circular house site and yielded an artifact complex similar in many respects to Mandan and Hidatsa material culture. This similarity and the location of the village led Mulloy to suggest that the Hagen site might be attributable to the Crow, who were in the Yellowstone area in historic times and are believed to have been originally a part of the Hidatsa group (Mulloy, 1942, pp. 100–103). Ludlow Cave is reported to have yielded numerous projectile points, several sherds, and other artifacts in deposits underlying a superficial layer containing glass beads and projectile points and other objects of metal (Over, 1936). Strong has stated, on the basis of an examination of the specimens, that the pottery rather closely resembles ceramics of "a generalized Mandan-Hidatsa type" and that "perhaps the closest resemblance is to the Old Fort Abraham Lincoln Mandan" (Strong, 1940, p. 384).

Returning to the Heart Butte Reservoir area, the combined investigations of the River Basin Surveys in 1946 and 1948 and of the North Dakota University–Historical Society party in 1947, which included inspection of almost all of the area to be flooded, resulted in the location within or immediately adjacent to the reservoir of 16 sites that either certainly or probably represented aboriginal activity. These sites, most of which appeared to be lightly occupied camps, are listed and briefly characterized in the Appendix. Most of them are now covered by the reservoir waters.

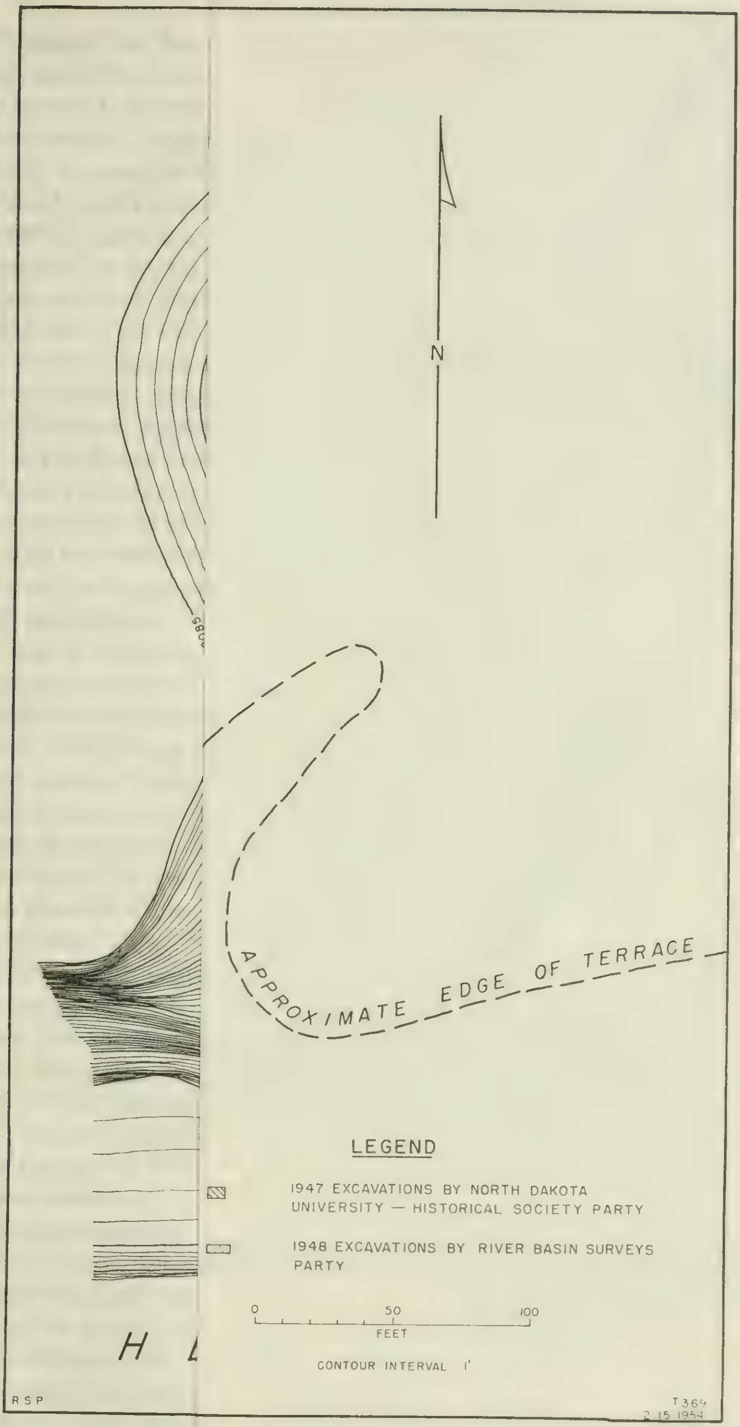
The site designations used in this report are in accordance with the standard system of the River Basin Surveys in the Missouri Basin. The first number indicates the State, and represents the numerical position of the State in an alphabetical list of the United States; the two letters following the numbers are symbols for the county; and the final number designates the specific site within the county. Thus, for example, 32GT1 is the first site numbered by the River Basin Surveys in Grant County, N. Dak., and 32SK4 is the fourth site numbered in Stark County, N. Dak.

THE KOEHLER SITE (32GT1)

EXCAVATIONS

The Koehler site, now covered by the reservoir, lay on the north bank of the Heart River near the line between the NE¼ and NW¼ of the NE¼ of sec. 9 T136N R89W. The river in this vicinity meandered from one side to the other of a relatively wide, flat-floored valley, and the site was at the outside of a bend which closely approached the northern valley wall (see map 1). It occupied a small terrace remnant, roughly triangular in shape, although somewhat altered by the encroachment of a short, shallow ravine. The remnant was bounded on the northwest by bluffs, on the south by a narrow strip of lower terrain bordering the channel of the Heart River, and on the northeast by a shallow dry ravine (pl. 1 and map 2). A camp at that spot would have been well sheltered from the prevailing northwesterly winds by the bluffs, which rise 40 to 60 feet above the terrace surface. The bordering ravine was heavily timbered, and there were a few trees on the terrace at the foot of the slopes from the uplands and in the small ravine that cuts into the terrace. Trees along the course of the river in the vicinity of the site were few and of small size. The predominating varieties were ash, elm, and boxelder, but there were a number of chokecherry shrubs in the two ravines adjoining the site. During the period covered by the investigations, there was a heavy cover of grass on the site, as elsewhere throughout the reservoir area where cultivation was not practiced, but the owner of the land stated that during the drouth of the 1930's the surface was bare of vegetation except for scanty patches of sunflowers and miscellaneous weeds.

The surface of the terrace on which the site lay, approximately 18 feet above the river, was basically almost level; there were considerable areas, however, where the surface was irregular, quite obviously as the result of recent disturbance. This situation was explained by Mr. Koehler, the owner of the site, who reported that about 1940 his nephew had dug a number of pits in search of artifacts and that several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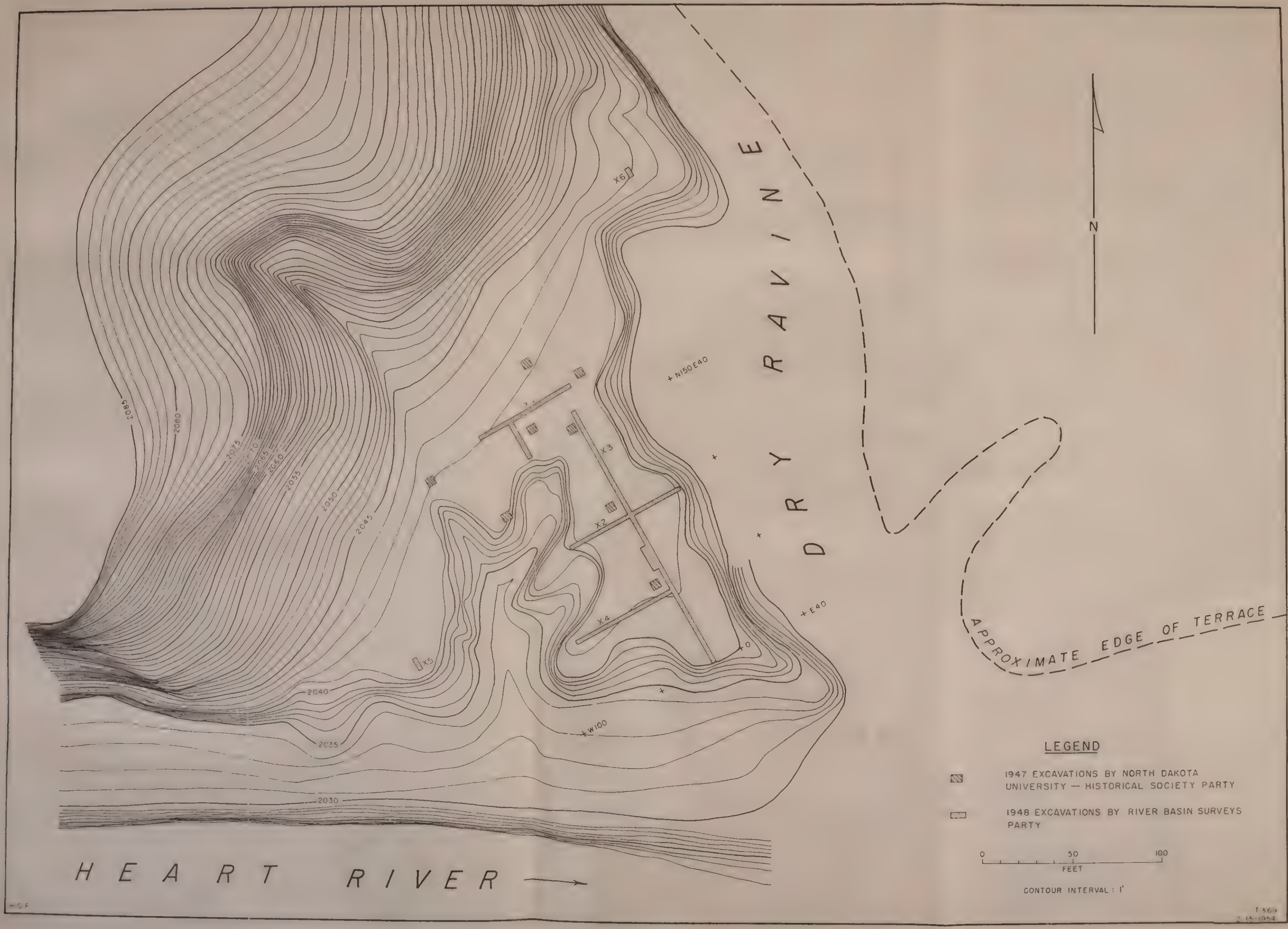
422141 O—58 (Face p. 12)


N
DRY RAVINE
APPROXIMATE EDGE OF TERRACE
HEART RIVER
2085
2080
2075
2070
2065
2060
2055
2050
2045
2040
2035
2030
X1
X2
X3
X4
X5
X6
N150E40
E40
W100
0
LEGEND
1947 EXCAVATIONS BY NORTH DAKOTA UNIVERSITY — HISTORICAL SOCIETY PARTY
1948 EXCAVATIONS BY RIVER BASIN SURVEYS PARTY
0
50
100
FEET
CONTOUR INTERVAL : 1'
T 369
2-15-1954

Map 2.—Contour map of Koehler site (32GT1) showing locations of excavations.

422141 O—58 (Face p. 12)

deep furrows had been plowed across the site to turn up these materials. In 1946, when the site was first observed by River Basin Surveys personnel, virtually no cultural material was observable on the surface except in places which had been thus disturbed.

During its week in the Heart Butte area in 1947, the Hewes party established a grid system and excavated 8 test pits, each 5 feet square, at scattered points over the site (see map 2, for locations). These pits were carried to depths ranging from 8 to 86 inches. Hewes reported finding a cultural deposit of some thickness containing pottery and other artifacts, as well as charcoal-blackened soil, animal bones, and mussel shells (Hewes, 1949 a, pp. 21–22). No cache pits, post molds, or floor lines were observed, but it was thought concentrations of charcoal might mark the locations of fireplaces.

Before the River Basin Surveys excavations were initiated in 1948, Dr. Hewes provided us with a ground plan showing his grid system and the locations of his test pits. Since several of his reference points (including the zero stake) were identifiable on the site, the established grid system was adopted for recording horizontal locations in most of the new excavations. Exceptions were 2 isolated trenches, excavation units 5 and 6 (X5 and X6), whose locations were plotted directly on the topographic map of the site made in the field (map 2). The zero point was at the southeast corner of the site. One base-line extended from this point along the northeast edge of the terrace in a direction 30 degrees west of magnetic north, and the other was a perpendicular through the same point. The former was arbitrarily designated the north-south zero line, the latter, the east-west zero line. In the following description of the excavations, references to directions are in relation to these baselines rather than to actual compass directions. Distances "north," "east," or "west" of the zero point were recorded as the number of feet, together with the symbol "N," "E," or "W." Thus, a point designated "N170W40" was 170 feet from the arbitrary east-west zero line and 40 feet "west" of the arbitrary north-south zero line (see map 2 and fig. 1). The units within the grid system were 5-foot squares, which were identified by the positions of their southeast corners. Thus, for example, the southeast corner of square N170W40 was 170 feet north and 40 feet west of the zero point. The surface at the zero stake served as the vertical datum point and measurements in relation to this elevation were made by level readings with a telescopic alidade or by tape from points established by this method.

Because the time and manpower available for the investigation of the site were strictly limited, only relatively small-scale excavations could be undertaken. They consisted of trenches, usually 2.5 feet wide, through various parts of the area of occupation. Ordinarily, the trenches were not expanded to uncover the entire extent of such features as fireplaces and concentrated refuse deposits when they ex-

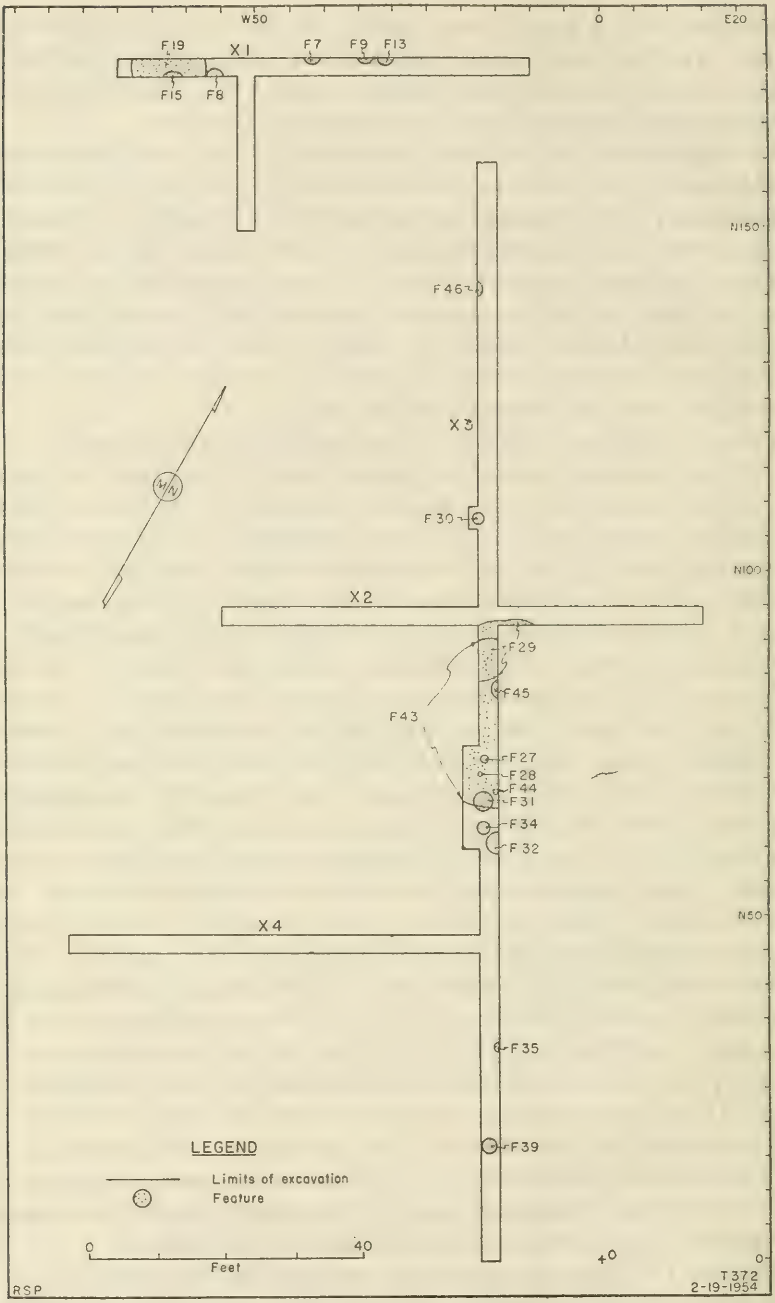

W50
0
E20
N150
N100
N50
0
X1
X2
X3
X4
F19
F7
F9
F13
F15
F8
F46
F30
F29
F45
F43
F27
F28
F44
F31
F34
F32
F35
F39
M/N
LEGEND
Limits of excavation
Feature
0
40
Feet
+0
T372
2-19-1954
RSP

FIGURE 1.—Plan of excavation units 1 to 4 (X1–X4), Koehler site (32T1), showing locations of fireplaces and other features.

tended beyond the trench walls, since as extensive a sampling of the site as possible was deemed essential. For convenience in recording, trenches or segments of trenches were assigned excavation unit numbers and are designated on the site map (map 2) as X1 through X6. Since all records were categorized under feature numbers—e. g., Feature 2 was the description of the superficial appearance of the site, Feature 3, the description of the horizontal and vertical control system, etc.—only a minority of such feature numbers refer to cultural phenomena encountered in the excavations.

All trenches were excavated well into the undisturbed soil which underlay the cultural deposits. Except as specifically noted, all were 2.5 feet wide. Excavation unit 1, at the north end of the main segment of the level terrace and at the foot of the slope to the upland, consisted of a trench (N172.5–175, W10–70) 60 feet long lying perpendicular to the axis of the terrace finger and of an intersecting trench (W50–52.5, N150–172.5) 22.5 feet long. Excavation unit 3 extended nearly the full length of the terrace finger and was intersected by excavation unit 2 (N92.5–95, 15E–55W), a trench 70 feet long, and excavation unit 4 (N45–47.5, W17.5–77.5), a trench 60 feet long. Excavation unit 3 was 160 feet long (0–N160) and was 2.5 feet wide (W15–17.5) except from N60 to N75, where it was 5 feet wide (W15–20). Excavation units 5 and 6 were on small detached segments of the terrace (see map 2, for locations) and were 7 and 5.5 feet long, respectively.

Excavation was in horizontal layers varying usually from 0.2 to 0.5 foot in thickness, depending upon the individual situation. The proveniences of specimens were recorded by square and excavation level except that exact horizontal and vertical measurements were taken of the locations when it seemed such data might have significance. As the excavations were carried downward, an attempt was made to define the horizontal and vertical limits of all features of cultural significance. A profile of one wall of each of the trenches was sketched on graph paper, based on vertical measurements in reference to the site datum. Such drawings were made of the W15 line from 0 to N92 and N95 to N160, the N45 line from W17.5 to W77.5, the N95 line from E15 to W55, the N175 line from W10 to W70, the W50 line from N150 to N172.5, the west wall of excavation unit 5, and the east wall of excavation unit 6. All pottery sherds, regardless of size, all artifactual material, and all identifiable faunal remains were collected, as were considerable samples of unworked stone and of unidentifiable bone refuse.

A generally similar stratigraphy was found to prevail over all portions of the site tested, except in excavation unit 6, which was at a higher elevation, and in areas which had been recently disturbed. The following description applies to all excavations but excavation unit 6.

Six zones were identifiable in all other trenches and were usually present at almost every point on the profiles. Recent disturbance, however, had been so extensive in the area of excavation unit 2 that the classic profile was only fragmentarily represented on the N95 line, and various of the zones on the W15 line, especially between N80 and N123, had been destroyed. Other local absences of the upper zones on the W15 and N45 lines were also apparently attributable to the deep plowing which had been done on the site. The six zones were as follows, top to bottom (see fig. 2 and pls. 3, *a*, *b*, 4, *a*, for characteristic profiles).

Zone A, a very thin dark layer, was the latest humus zone. It almost never exceeded 0.15 foot in thickness, averaging closer to 0.1 foot, and was often not discernible on the profile. It was unusually well represented on the part of the N45 line shown in plate 3, *b*. This zone was culturally sterile.

Zone B was a layer of light-tan material, predominantly a very fine sand over most of the site, but having a clayey component in excavation unit 1, near the foot of the adjoining bluffs. This zone varied in thickness from 0.1 to 0.8 foot, the thicker deposits lying generally near the slopes to the upland. Over much of the site, the average thickness was about 0.3 foot. No cultural material was found in this layer.

Zone C was a dark layer, probably an old humus zone, containing occasional lenses, usually very small, of light-colored silty material. It appeared to have a considerable organic content. It ranged in thickness from 0.15 to 0.5 foot, being thicker in excavation unit 1 (where it has apparently been augmented by slope wash), and averaged approximately 0.2 foot thick in most of the site. Cultural material, mainly small bone fragments and flecks of charcoal, occurred sparsely within this zone, but there were no fireplaces nor any concentrations of refuse.

Zone D was a layer of predominantly light-colored silty material containing, from top to bottom, thin, discontinuous lenses of darker earth; small lenses of burned earth and ashes; and other evidences of occupation such as flecks of charcoal, fragments of stone and bone, and artifacts. A number of fireplaces and dense deposits of bones and mussel shells were also uncovered in this zone. The thickness of the layer varied from 0.25 to 0.8 foot and averaged about 0.5 foot in most of the site.

Zone E resembled zones A and C in consisting of dark, heavily organic material; it was probably an old humus zone. It was not discernible in restricted areas of the site where it may have been destroyed by the activities of the aboriginal occupants. This was true in at least one instance, in excavation unit 3, where an extensive, shallow pit, apparently excavated from the base of zone D, had removed

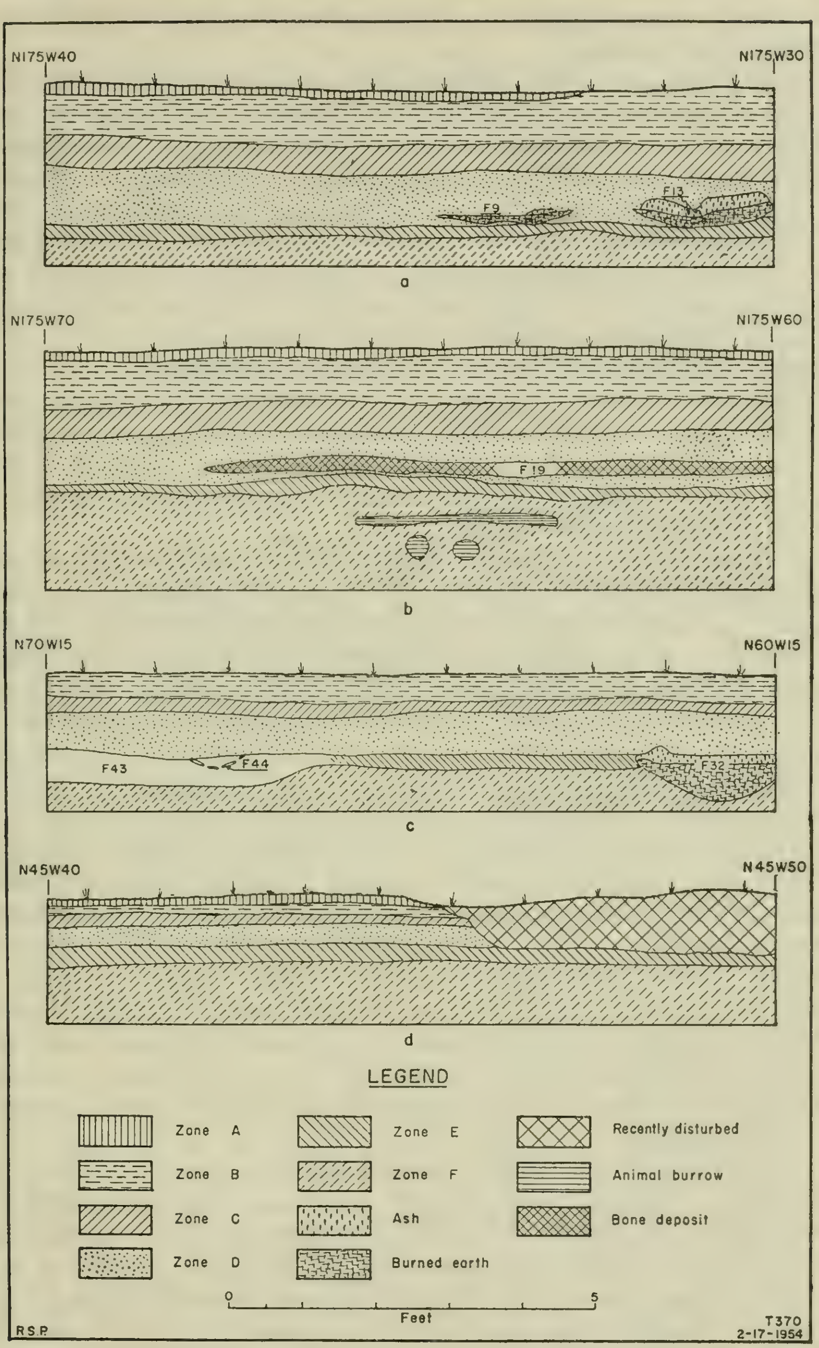

N175W40
N175W30
F13
F9
a
N175W70
N175W60
F19
b
N70W15
N60W15
F43
F44
F32
c
N45W40
N45W50
d
LEGEND
Zone A
Zone B
Zone C
Zone D
Zone E
Zone F
Ash
Burned earth
Recently disturbed
Animal burrow
Bone deposit
0
5
Feet
R.S.P.
T370
2-17-1954

Figure 2.—Characteristic profiles in Koehler site (32GT1). *a*, *b*, N175 line in excavation unit 1. *c*, W15 line in excavation unit 3. *d*, N45 line in excavation unit 4.

zone E (Feature 43, fig. 2, *c*). Small quantities of cultural materials occurred in this zone.

Zone F was the sterile, light tan, silty or very fine sandy material underlying the cultural deposits on the terrace. At places on the N175 and W15 lines, the upper part of this deposit was stained gray and seemed to be slightly cemented, perhaps as the result of percolation of water carrying certain substances from the overlying deposits.

The area in which excavation unit 6 was situated had been subjected to different depositional conditions. The profile there consisted of alternate layers of clay, varying from 0.25 to 0.9 foot in thickness, which were distinguishable by differences in color. There were six of these layers between the surface and the base of the trench, which was 3.5 feet deep. Bone fragments and an occasional fleck of charcoal occurred in the fourth and fifth zones below the surface, and a small fireplace lay at the contact between these two zones. The top of the upper cultural layer was 1.6 feet beneath the surface, the base of the lower was at a depth of 2.8 feet.

Cultural debris was found throughout the excavations but was not uniformly distributed in the site. Evidences of occupation were very scanty in excavation units 5 and 6, and relatively so south of N50 in excavation unit 3. While moderate quantities of bone and stone fragments and two fireplaces occurred in the latter area, no pottery or other artifacts were found. Artifactual materials, not recovered in profusion anywhere in the site, were more abundant in the western part of excavation unit 4, in the northern part of excavation unit 3, and especially in excavation unit 1. Bone fragments were particularly numerous in the latter (pl. 5, *a*, *b*). They were found from top to bottom of zone D, and scantily in zones C and E, but did not occur above or below these limits except where disturbance by man or beast was apparent. In only a few instances were there small clusters of sherds. Pottery fragments and other artifacts usually occurred as isolated finds within the general occupational zone. Similarly, bones, stone fragments, and mussel shells were ordinarily found scattered through the site, although an occasional cluster of stones, a concentrated deposit of bones, and a similar deposit of shells were uncovered in the excavations.

No cache pits were found, nor were there post molds or other evidences of structures. The only pit, other than those attributable to very recent activities on the site, was Feature 43, which lay between N66 and N91 in excavation unit 3 (fig. 1; pl. 3, *c*). Extending unknown distances east of the W15 line and west of the W17.5 and W20 lines, its irregular floor lay from 0.2 to 1 foot beneath the base of zone D. The fill was a relatively homogeneous brown silt in which there were no fireplaces and no lenses of ashes or burned earth but which contained occasional bone and stone fragments and, near the top, a small cluster of heat-fractured stones, Feature 27 (fig. 1), and a group of approximately 50 pottery fragments (Feature 44), mostly very small, from a single vessel (figs. 1; 2, *c*). The excavation of this pit had obliterated zone E, so that it was directly overlain by zone D.

Other conspicuous concentrations of debris consisted of two small clusters of potsherds in addition to the deposits of bones and shells previously mentioned. Two rim sherds and 43 body sherds, some exceedingly small, apparently all part of the same vessel represented by Feature 44, lay at the base of zone D, just above the pit, Feature 43, at approximately N71 on the W17.5 line (see pl. 3, *d*, and Feature 28, fig. 1). At N107–109, W17–18.5, and 0.2 foot above the base of zone D were the remains of approximately one-third of a vessel, so badly fragmented that restoration is impossible (pl. 3, *e*). This group, Feature 30, included 11 rim sherds and 325 body sherds, many of the latter not exceeding a centimeter in greatest dimension.

Feature 19 was a dense deposit of bones, mostly of bison, encountered in the western end of excavation unit 1 (fig. 1) and extending north and south of the limits of the trench. Varying in thickness from 0.1 to 0.2 foot, it lay approximately horizontal 0.1 to 0.2 foot above the base of zone D (fig. 2, *b*) and extended from W57 to W68. Plate 5, *b* shows the unidentifiable bones from this deposit which were discarded in the field. A deposit of mussel shells (Feature 29), similar to Feature 19 in thickness, and probably in horizontal extent, was partially exposed in excavation units 2 and 3 (pl. 5, *c*). It also lay horizontally, but directly upon the base of the cultural zone, except that much of it immediately overlay the large pit, Feature 43 (pl. 3, *c*). Like Feature 19, this was a dense deposit ranging from 0.1 to 0.2 foot in thickness.

The other features in the site were fireplaces, of which 13 were uncovered completely or partially in the trenches. These tended to cluster in two areas, near the slopes to the upland, in excavation unit 1, and from N60 to N85 in excavation unit 3. Judging from those which were completely exposed and what observations were possible on those only partially excavated, they ranged in diameter from slightly less than 2 feet to approximately 3 feet. A size nearer the lower end of this range appears to be most frequent. Stones were never associated with the fireplaces, which at least in some instances were simply limited circular areas on the occupational surface where fires had been maintained and which were apparent as lenses of earth usually surmounted by ashes and burned to a red color. In eight cases, the surface of the burned earth was deeper in the center than at the edges so that the ashes lay within a basin-shaped depression. These depressions varied from less than 0.1 foot to 0.25 foot in depth and some at least may have been created incidentally as the ashes were removed by the users. Ashes usually, but not invariably, lay upon the surface of the fireplaces; sometimes there were traces only but in other instances the deposits were as much as 0.25 foot thick. The depths to which the color of the underlying earth had been affected by heat varied considerably as well, suggesting differences in the duration of the fires which had burned on the hearths. The range in maximum thickness of the burned earth lenses was from 0.05 foot in the case of Feature 33, a small fireplace in excavation unit 6, to 0.5 foot for Feature 32 at the base of zone D at N60.8W15 (fig. 2, *c*). The fire-reddened earth beneath the majority of the fireplaces, of which Feature 7 (pl. 4, *c*) and Feature 13 (fig. 2, *a*) were typical, was 0.2 to 0.25 of a foot thick. In the main part of the site, where the classic profile prevailed, fireplaces were found from top to bottom of zone D, although the majority (8 of a total of 12) were in the lower half of this deposit and 4 lay on or nearly on its base. One (Feature 35) was at the upper limits of zone D in the southern part of the site.

ARTIFACTS

As indicated above, artifactual materials were recovered in rather limited quantities. Furthermore, the range of forms is not great, and numerous types almost invariably present in adequate samples from sites on the Missouri River in the northern Plains are absent from the collections. Examples of such artifacts are the ubiquitous scapula hoes and shaft straighteners. No metal or other White trade items were found, nor have the collectors reported finding such materials.

In the following sections, the specimens collected by the North Dakota University-Historical Society party have not been included in the artifact counts, but are mentioned when they provide information lacking in the River Basin Surveys collections. Hewes has described the few rim sherds found in his excavations (1949 b).

POTTERY

The pottery collected from the site by the River Basin Surveys party consists of 1,383 fragments, which range in size from less than 1 cm. to 8.5 cm. in maximum dimension. More than 75 percent of these are less than 3 cm. long, and a very small number lie near the upper end of the size range. Sixty-two sherds are from the rim of the vessel and include the lip—some of them consist of little more than this feature—and 23 additional sherds are from various decorated parts of the rim area, but do not extend to the lip. Several of the sherds adjoining the vessel mouth have been fitted together to reduce the number of such fragments from 62 to 39, believed to represent 28 vessels. Three groups of sherds, found in as many clusters in the site, are apparently attributable to two vessels (Feature 30 and Features 28 and 44, respectively), although they have proved capable of little restoration. These groups constitute the only information available as to certain attributes of the pottery, such as size and overall form, and the combination of attributes which go to make up a pottery container. Feature 30 consists of 11 rim sherds and 325 body sherds, many of which are exceedingly small. The rim sherds and several body sherds have been combined into 3 larger rim and neck fragments, and 16 body sherds permitted restoration of a part of the lower body of the vessel. Features 28 and 44 comprise 10 rim sherds, which partial restoration has reduced to three larger pieces, and 101 body sherds.

The tempering material included in the pottery, judging from examination of the edges of the fragments in the collection and of several crushed sherds, is invariably composed of angular rock fragments, apparently crushed granite. The particles are relatively fine, averaging considerably less than 1 mm. in diameter; the finest are less than 0.25 mm. in diameter, and only a rare example exceeds 1 mm. Only moderately abundant, the tempering fragments are rather uniformly distributed through the paste in most sherds, although occasionally some clumping is observable. The paste, as revealed by the broken edges of the sherds, is most often fine-grained and compact, but occasionally has a rather gritty appearance as though fine silty material were included with the clay. The gritty pottery tends to break rather cleanly, while the broken edges of the sherds with finer paste are most often irregular and sometimes fairly contorted. Some of the latter have a slightly laminated appearance and there is an occasional split sherd. Surfaces vary from very smooth to gritty, but the preponderant surface, both interior and exterior, can be described as moderately smooth. Occasional sherds, usually but not exclusively from the neck area, are glassy to the touch, and have a high light reflectance. This effect has been achieved by a usually horizontal smoothing, apparently with a very smooth, hard-surfaced object. There appears to be relatively little variation in hardness; of the samples tested, over 95 percent fall between celestite (3.5) and fluorite (4), the remainder are between 3 (calcite) and 3.5.

Surface color is usually gray, although there is a gradation to a dull buff, at least sometimes on the same vessel. The two surfaces of a sherd are generally similar in color except for alterations, such as smoke blackening and the accumulation of carbonized material, incidental to use. The core is almost always entirely or predominantly gray, usually of a very dark tone approaching black but occasionally fairly light. The cross sections of sherds with buff surfaces, however, sometimes reveal thin strata of a similar color adjacent to the surfaces.

Of the body sherds, 68 percent have alternating grooves and ridges on their exterior surfaces, presumably created by the application of a grooved or thong-wrapped paddle (pl. 12, *c*, *2*, *6*, *9*), a treatment which has frequently been called simple stamping by archeologists in the Plains area. Seven percent bear incised decoration, and the remainder are plain. A large proportion of the plain sherds are probably from the neck area or from the rim, although a very small number are quite obviously from the lower portion of the vessel. The lack of grooves and ridges on a few sherds does not necessarily indicate that the paddle was not always used, since these features were barely discernible on many sherds from vessels which had been unusually well smoothed subsequent to the paddling. A few sherds from the lower edge of the decorated area indicate that sometimes, at least, paddle marks extend this high on the vessel, but they are never discernible within the decorated zone. They are not present on the neck and rim of Feature 30, but traces of vertical grooves and ridges can be seen on the outer rim of Features 28 and 44, despite considerable smoothing. Such vestiges are not visible on any other identifiable neck or rim fragments. Although on a large proportion of the sherds there is evidence of various degrees of smoothing subsequent to paddling, such evidence is lacking on some. The grooves, which appear to lie vertically on the vessel, with some crossing in the basal area, vary considerably in width, but most are from 3 to 4 mm. wide and are separated by ridges 1.5 to 2 mm. wide. The extremes in width are approximately 1.5 mm. and 7 mm., but only rare examples lie near these extremes. The remnants of vertical striations, usually nearly obliterated by subsequent horizontal smoothing, are observable on some sherds from the neck area. Interior surfaces are smooth and relatively even, lacking tool marks, except that in the area from the lip to the point of maximum constriction there are sometimes polished elongated horizontal facets resulting from the final smoothing of this area.

The specimens in the collection cast little light on the method of manufacturing the pottery. There is, however, no evidence to suggest coiling, and it is probable that the paddle marks on the exterior surfaces were incidental to at least some of the later phases of the fabricating process.

The collection provides little evidence relative to the general form or the size of the vessels represented, but some clues are available. There are, for example, no sherds indicating bowl forms, angular necks or shoulders, except for a single very small sherd which may be from a miniature vessel (pl. 7, *9*), or bases which are pointed or flattened. A partially restorable vessel, Feature 30 (pl. 7, *3*), had originally, judging from the portions present, a mouth diameter of approximately 205 mm. and a neck diameter of approximately 180 mm.; its maximum diameter and height are unknown. A partially restorable segment which appears to belong to the lower part of the body suggests a rounded base. The rim rises in a wide curve from an apparently rounded shoulder area and flares outward from the point of maximum constriction. The exterior surface of the rim has been thickened, by the addition of a fillet, for a distance of 9 mm. below the lip. The thickness varies from place to place on the vessel. The upper rim averages 8 mm., sherds from the neck average 5 mm., and those from the lower part of the body range from 3 to 6 mm. The thinnest sherds, 2.5 mm. thick, are from the decorated shoulder area. An even more scantily represented vessel (Features 28 and 44) appears to have been similar in form and not greatly different in size. A mouth diameter of approximately 240 mm. and a neck diameter in the neighborhood of 215 mm. are indicated. The rim is thickened as on Feature 30 (pl. 7, *1*). Other, smaller, rim sherds suggest that most of the vessels represented may be close to these in size, although one unthickened flaring rim indicates a mouth diameter probably not exceeding 150 mm. (pl. 7, *6*).

The commonest rim form (31 sherds representing 17 vessels) is characterized basically by a slight to pronounced convexity of the outer surface of the upper rim as viewed in vertical section, and a corresponding concavity of the inner surface (pl. 6). The exterior and interior walls are usually parallel and describe a smooth curve, but in one instance there is a sharp break on the outer rim 43 mm. below the lip and a somewhat less pronounced angle on the inner surface (pl. 6, *13*). This latter specimen is also unusual in the series in its thickness and in the height of the decorated rim area. On 8 sherds (4 vessels) the concave-convex part of the rim is surmounted by a flare to a lip which is rounded, thinned, or thickened (pl. 6, *8*, *9*, *14*), but otherwise the surfaces curve directly to a lip which may be flattened, rounded, thickened, or thinned (pl. 6, *1–7*). Thinning of the lips of the last category was usually accomplished by beveling the inner rim margin (pl. 6, *1*, *4–7*). None of the sherds in our collection includes the total height of the concave-convex portion of the rim, but a single specimen collected by the Hewes party extends to the point at which the curve to the shoulder area begins. This sherd, which has been thickened on the interior adjacent to the lip, measures 32 mm. from lip to point of maximum constriction (pl. 6, *11*).

Thirty-one sherds (9 vessels) flare to a rounded, thickened, or thinned lip except that 25 (5 vessels) have been thickened on the exterior surface adjacent to the lip. On all but one of the latter the thickening is elliptical in cross section and varies from 5 to 10 mm. in width (pl. 7, *1–4*, *7*). Note variation on single vessel fragment in plate 7, *1;* the exception, apparently created by folding the plastic clay outward, breaks sharply at the base of the thickening, 15 mm. below the lip, to give the upper rim a roughly triangular cross section (pl. 7, *10*).

Decoration occurs on the lip, inner rim, outer rim, and shoulder area and is, with rare exceptions, in two techniques, incising and impressing with single twisted cords. Except for one sherd in the collection made by the Hewes party and described below, incising is restricted to the body—probably to the shoulder area only—and cord impressing is apparently found only on the rim. Incising is invariably fine, 1 to 2 mm. wide and usually so shallow as to defy measurement except at the beginning of a stroke, where it may approach 1 mm. in depth. A single body sherd in our collection combines punctations with incisions (pl. 7, *9*), and there are two punctations on a cord-impressed rim sherd in the Hewes collection (pl. 6, *15*). The sherds in our collection are too small to permit any comprehensive determination of the designs. It is evident, however, that they consist of groups of parallel lines and that these groups are combined in various ways. A few sherds reveal a distinctive interrupted-line arrangement which appears to be similar to an incised design at the Double Ditch site (Will and Spinden, 1906, pl. 38, *h*). There is no way of determining what proportion of the vessels from the site bore body decoration or how such decoration is correlated with other characteristics of the pottery. It should be stated, however, for what it may be worth, that approximately 30 percent of the body sherds from Feature 30 bear incised lines in contrast to a figure of approximately 7 percent for the remainder of the body sherds from the site. It seems certain, judging from the sherds comprising Features 28 and 44, that body decoration was not always present. If it could be assumed—which it cannot—that the various zones of the complete original vessel were proportionately represented by the sherds of Feature 30 and that other conditions were such as to produce a fragmentation representative of that for pottery in the site in general, a tentative conclusion might be drawn that approximately 1 of 4 vessels bore body incising. While the assumptions necessary to reach this conclusion are highly questionable, it may not be unreasonable to guess that a minority of the vessels which contributed to the sherd collection had been incised.

The cords used to impress designs on the rims invariably had a left-hand twist, but they varied in diameter and in the tightness of the twist. Plate 6, *17*, is illustrative of the finest, most tightly twisted cord used on the pottery from the site; plate 6, *5*, of the largest cord. The range in width of the cord impressions is approximately 1.5 mm. to 3 mm. Rims with exterior thickening invariably have the resulting band decorated with closely spaced oblique lines, extending from the upper left to lower right or vice versa (pl. 7, *1–4*, *7*, *10*). In addition, the lip of rim sherds of Feature 30 bears a series of notches, perhaps made by impressing with the fingertip, averaging approximately 10 mm. long and 4 mm. apart (pl. 7, *3*), and the lower border of the collar of another specimen is notched at intervals by the removal of clay with the fingernail (pl. 7, *10*). A rim sherd in the Hewes collection has a series of deeply incised lines lying obliquely from upper right to lower left across the thickened portion (pl. 7, *4*). The exterior surfaces of concave-convex upper rims are decorated, except for 2 entirely plain specimens, with cord impressions often (10 sherds, 5 vessels) as a series of horizontal lines extending to the lip (pl. 6, *1–4*). In one instance the horizontal series is interrupted by a series of diagonal, or perhaps curvilinear, lines (pl. 6, *1*). The three sherds representing this vessel also have a band of decoration 9 mm. wide adjacent to the lip on the inside of the rim. This band is composed of closely spaced cord-impressed lines lying obliquely from upper right to lower left. Three other fragments, all small and not extending to the vessel mouth, reveal a similar interruption of horizontal lines by diagonal, or curvilinear, lines, and there is a similar specimen in the Hewes collection (pl. 6, *11*). When the upper part of the rim flares outward above the concave-convex section, the cord-impressed lines do not extend onto the flaring portion (pl. 6, *8*, *9*, *14*). Other designs on rims of this form are oblique lines, probably between a pair of horizontal lines (pl. 6, *5*, *7*, *16*, *18*) and groups of opposed diagonal lines (pl. 6, *6*). On the single rim sherd which has a sharp break in the rim curve (pl. 6, *13*), three diagonal lines break a series of horizontal lines. This sherd, although similar in paste, color, and tempering, differs from other rim sherds in the site and resembles pottery reported by Hewes from a site (32SI4) on the Missouri River near Fort Yates, N. Dak. (Hewes, 1949 b, pl. 6, *q*). Of the 5 sherds (3 vessels) from unmodified flaring rims, 1 certainly and 2 others (1 vessel) probably are decorated only on the lip, which in each instance is thickened to the exterior, is flattened, and slopes outwardly. Both bear closely spaced cord-impressed lines lying obliquely from upper left to lower right (pl. 7, *5*). The remaining 2 sherds (1 vessel) are decorated on the lip and both surfaces of the rim with closely spaced, exceptionally fine cord-impressed lines. A band of horizontal lines occupies the space on the outer rim surface below a point 8 mm. from the lip, and above this is a series of oblique lines slanting from upper right to lower left (pl. 7, *6*). A series of lines arranged as horizontal chevrons lies across the lip and on the upper margin of the inner rim surface.

The group of sherds which appear, on the basis of the decorative technique present, to be from the rim area, add nothing to the foregoing descriptions except that on a single sherd one and part of a second elliptical punctate lie adjacent to, and probably below, the vestiges of a cord-impressed line.

The ceramics from the Koehler site, quantitatively limited as they are, appear to fall entirely within the range described for sites which have been attributed to the Mandan of the 18th century (Will and Spinden, 1906; Will and Hecker, 1944; Strong, 1940). Not only do the descriptions of the general characteristics of Mandan ceramics of this period apply to our pottery, but many of our sherds appear to be almost identical to specimens illustrated in the cited reports (Strong, 1940, pl. 5; Will and Hecker, 1944, pl. 15; Will and Spinden, 1906, pls. 37–41, figs. 14–16) and most of them can be virtually duplicated in the limited surface collections from the Slant and Double Ditch sites in the possession of the River Basin Surveys, especially from the latter. The lack in the scanty Koehler site collection of the more elaborate forms and of such features as check-stamped surfaces, handles, and cord-wrapped stick decoration has little significance, since these are reported to be rare in the large collections from the Missouri River sites. The major difference between our sample from the Double Ditch site and the Koehler site materials is in the thickness of the sherds; the average for the latter is appreciably smaller than that for the specimens collected from the surface of the former. There seems to be no reason for comparing our pottery with that reported by Mulloy (1942) from the Hagen site, since the resemblances are of a much lesser order.

WORK IN STONE

Fragments of stone of various kinds—quartzite, cherts, chalcedonies, and various igneous forms—were abundant in the site, but artifacts were not numerous and the range of forms represented is relatively limited. Ground stone artifacts are rare and there are only 2 or 3 unshaped cobbles which appear to have been used as hammerstones. There are a few small fragments of pumice, none of which shows any evidence of use. Chipped artifacts were made from what appear to be four varieties of chalcedony (including a considerable quantity of so-called Knife River flint), a gray chert, a gray silty chert, a fine-grained quartzite, and—rarely—jasper. Chert and chalcedony were most often utilized for the smaller artifacts, while the larger ones were predominantly made from quartzite and the silty chert.

There are 10 complete or fragmentary projectile points in the collection, 9 of which are small, light, and triangular and have straight or very slightly concave bases. All are illustrated in plate 8, *1–10*. Of the 9, all but 1 have a single pair of side notches. They are delicately chipped on both surfaces to produce a thin biconvex cross section, invariably falling between 3 and 4 mm. in thickness. The sides are sometimes slightly convex. The 4 complete or nearly complete specimens have actual or estimated lengths and widths as follows: 28.5 mm. and 14 mm. (pl. 8, *1*), 24 mm. and 14 mm. (pl. 8, *3*), 25 mm. and 14.5 mm. (pl. 8, *2*), and 28 mm. and 13 mm. (pl. 8, *4*).

Plate 8, *10*, shows the single small unnotched point, which has a maximum width of 14 mm. The points represented by the smaller fragments probably did not greatly exceed the size range of the complete specimens; the largest (pl. 8, *5*) is 18.5 mm. wide and is, in its incomplete condition, 29 mm. long. The specimen shown in plate 8, *2*, has been reworked to its present form by chipping from one face; while the specimen has probably been broken, all edges including the concave one, have been chipped. The points are made from a homogeneous chert (pl. 8, *10*), silty chert (pl. 8, *2*, *4*), "Knife River flint" chalcedony (pl. 8, *3*, *6–8*), and a light yellowish chalcedony (pl. 8, *1*, *5*). A single basal fragment, 20 mm. wide and 23 mm. long, with straight base and parallel sides, apparently is part of a larger projectile point (pl. 8, *9*). Of chalcedony, it has a thin (3.5 mm.) biconvex cross section. Three fragments in the Hewes collection are apparently from both notched and unnotched triangular points.

Twelve complete and fragmentary end scrapers were found in the excavations. All complete or nearly complete specimens and a specimen from the Hewes collection are illustrated in plate 8, *12–23*. All are basically triangular in form and are relatively small; the complete specimens vary in width from 20 mm. to 26.5 mm. and in length from 23 mm. to 33 mm. The ventral surfaces are unworked and represent the original unmodified flake surface, except in two instances where a small amount of chipping was probably necessary to remove some irregularity. The dorsal surface has usually been shaped by overall chipping, although this is not true of the specimen shown in plate 8, *23*. The working edge is steeply inclined except in one instance (pl. 8, *20*). One specimen has a graverlike point at one end of the steep scraping edge (pl. 8, *14*). All but two of the end scrapers are made of "Knife River flint" chalcedony. Of the two exceptions, one is of a compact gray chert, the other, of dark red jasper. The only end scraper in the Hewes collection is like those described above, but is larger; it is 45 mm. long and 30 mm. in greatest width (pl. 8, *12*). A single specimen, somewhat similar to the end scrapers in general form, although larger, has a concave, gougelike working edge (pl. 8, *24*). Of "Knife River flint," it is 40 mm. long and 33.5 mm. wide. One or two coarse flakes have been removed from the ventral surface, but otherwise it resembles the end scrapers in being worked only on the dorsal surface.

The site produced a rather wide variety of blades, varying considerably in size and form. One group of bifacially flaked specimens, while varying in form and size, can be set apart on the basis of relative length and width and the invariable presence of retouching on the edges. Ends may be pointed, rounded, or straight, and sides are straight, or moderately convex, but all are alike in being relatively long and narrow. The complete range is illustrated in plate 9, *1–11*.

Four of the 13 complete and fragmentary specimens are of "Knife River flint," 4 of other chalcedony, 4 of silty chert, and 1 is of fine-grained quartzite. The smallest complete specimen (pl. 9, *11*) is 46 mm. long and 15 mm. in maximum width, the largest (pl. 9, *2*) is 109 mm. long and 28 mm. wide. The specimens are 3 to 4 mm. thick. Some of them resemble rather closely specimens from the Double Ditch site, described and illustrated by Will and Spinden (1906, pl. 34). A fine-grained quartzite fragment is long, narrow, and relatively thick (pl. 8, *29*). It may have been intended to serve as a drill, although its point seems rather blunt to have so functioned. It is carefully worked on both faces and is 7 mm. thick and 15 mm. wide.

All but 2 of 11 rather large blades are incomplete; they are made of fine-grained quartzite or silty chert with one exception, which is of "Knife River flint." They have convex sides and pointed (pl. 10, *1*, *3*, *6*), straight (pl. 10, *5*, *8*), or rounded (pl. 10, *2*, *4*, *7*, *9*) ends. They are shaped by percussion flaking on both surfaces, and secondary chipping is sometimes present, sometimes absent on the edges. On some specimens, only parts of the edges have been retouched. Two complete specimens are 59 mm. long and 40 mm. wide and 127 mm. long and 50 mm. wide (pl. 10, *7*), respectively. Specimens of this class vary in thickness from 8 mm. to 13 mm. Like the long, narrow blades previously described, these objects seem to bear a close resemblance to specimens reported and illustrated from the Double Ditch site (Will and Spinden, 1906, p. 164 and pl. 33). A few larger and heavier blades made from the same materials may have been used either as scrapers or as choppers. The only complete specimen (pl. 10, *13*), 112 mm. long, 68 mm. wide, and 23 mm. thick, is the most carefully made of this group of artifacts. On the others, only enough percussion flaking has been done to create an ordinarily rather blunt edge and sometimes to reduce a fragment to convenient size (pl. 10, *11*, *12*, *14–16*).

Other chipped-stone objects consist of irregular flakes, large and small, with one or more retouched edges. The end of one very small, thin flake of chalcedony has been chipped on one surface to create a very fine point (pl. 8, *11*). It is difficult to visualize a function for this specimen, since it is much too thin and fragile for use as a graver. The smaller retouched flakes are usually chalcedony, while the larger, heavier retouched fragments are most often quartzite and silty chert (pl. 9, *12–14*).

Objects of stone other than those which have been altered by chipping are very rare. A thin subtriangular object smoothly ground into shape from Amazon stone, a green variety of microline, has been perforated, presumably for suspension (pl. 8, *28*). Above the biconical perforation, which is approximately 1 mm. in diameter, and at the apex of the triangle, can be seen the remains of a similar hole which had apparently been drilled too close to the edge of the stone. This object, supposedly a pendant, is 16 mm. long, 12 mm. wide, and 3 mm. thick. Three thin fragments of a brick-red stone with laminated structure, tentatively identified as volcanic ash, are probably split from a single tabular piece which was rectangular in outline. Most of the original surfaces have scaled away, but a small remnant near a rounded corner of one of the pieces bears a short segment of an incised line (pl. 8, *26*). Another thin tabular fragment of similar material with a rounded edge bears the remnants of 3 or 4 lines which seem to radiate to the edge of the object from a common point (pl. 8, *25*). This piece also appears to have been split from a thicker stone. Although they are so fragmentary that no definite statement is possible, these objects seem to me to be reminiscent of incised rectangular and tabular stones reported by Will and Spinden from the Double Ditch site (1906, pp. 165–166 and fig. 4). Of similar material is an asymmetrical but basically disk-shaped bead with a conical central perforation (pl. 8, *30*). It has an average diameter of approximately 17 mm., an average thickness of 7 mm., and a perforation 4–7 mm. in diameter. A fragment of fine-grained red stone is probably part of a circular bead. It is crudely shaped and is broken through a conical perforation (pl. 8, *27*). The diameter of the bead was 13 mm., the thickness 8.5 mm. Finally, as far as tools or other objects of stone are concerned, there are two unshaped cobbles of igneous rock each with one end somewhat battered, suggesting their use as hammerstones.

As in the case of the pottery, it appears that the artifacts of stone from the Koehler site fall within the range of the materials from the Double Ditch site. Although the descriptions of projectile points, for example, from the latter site are too general to permit a satisfactory comparison, there seems to be no doubt that there are at least some nearly identical artifacts. The similarities in some of the larger chipped blades have already been noted. I suspect, also, that there is a close correspondence in the materials utilized. For example, Will and Spinden mention the use of a "gray chert or fine grained argillite" for the larger blades (1906, p. 164), and I am of the opinion they are referring to material identical to that which is described here as a silty chert; stone of this kind is in our surface collection from the Double Ditch site. I do not remember having seen material of this sort, at least in quantity, in sites of other cultural affiliations, and its use may prove to be culturally diagnostic.

WORK IN BONE AND ANTLER

Objects of worked bone and antler recovered in the excavations are few in number and represent a very limited range of artifacts. A single well-made awl, 108 mm. long, is made from a section of long bone, probably the metapodial of a deer or antelope (pl. 11, *8*). The butt has been modified by grinding, but traces of those features characterizing the articular surfaces of the end of the bone can still be recognized. The implement is relatively uniform in width to within 24 mm. of the sharp point, which is formed by a sharp taper of the two edges and the interior surface. Four spatulate objects, all but one fragmentary, may be classed together. Three are made from the lateral surface of a large rib, one is probably from the thickened border of a large scapula. The three fragments retain on the inner surface a layer of rough cancellous bone which shows no evidence of smoothing. The edges are roughly shaped, and only the ends appear to have been used. On 1 specimen, the end is rounded, and on 2 it is bluntly pointed (pl. 11, *1*, *3*, *6*). These ends bear 1 or 2 wear facets. The fourth specimen has been worked overall and has one end thinned and rounded. The other end, also rounded but considerably more tapered, bears a wear facet but has also been somewhat nicked as though the tool might have been used in chipping. This specimen is 120 mm. long and 19 mm. wide (pl. 11, *2*). These specimens appear to be similar to bone objects from the Double Ditch site illustrated by Will and Spinden (1906, pl. 35, *n*, *o*), and as far as general form and the nature of the working ends are concerned, to objects from the vicinity of Mobridge, S. Dak., described by Wedel (1955, pp. 123–126). Wedel points out the resemblance of his specimens to an object described and figured by Orchard (1916, p. 9, pl. 5), identified as a quill-flattener and attributed to the Sioux.

There are two objects which may have been used primarily for chipping stone, judging by the nicked condition of their blunt points. One is an otherwise unmodified tip which has apparently been broken rather than cut from an antler (pl. 11, *11*), the other appears to be made from the thickened border of a large scapula. The distal half of this specimen has been worked overall to remove all traces of cancellous bone and to create a symmetrical taper to a rounded point (pl. 11, *12*). The antler specimen is 95 mm. long and about 18 mm. in diameter at the butt, the bone specimen is 223 mm. long and varies from 10 mm. to 35 mm. wide, near the tip and at the base, respectively.

A small highly polished section of bird bone is presumably a bead. Marks of cutting are visible at both ends, and there are several short transverse scored lines irregularly spaced at various points on the specimen, which is 14 mm. long and 6 mm. in diameter (pl. 11, *4*). A fragment of a small mammal rib is unmodified except for a slight polish and half of a biconical perforation at one of the broken ends (pl. 11, *5*). The specimen is 43 mm. long and 2.5 mm. wide. Its function is uncertain, but it is suggestive of specimens from the Double Ditch site (Will and Spinden, 1906, p. 172 and pl. 36, *x*). A split section of bird bone, rounded at one end and broken at the other, is also of uncertain function (pl. 11, *9*). It is 5 mm. wide and, in its present condition, 68 mm. long. All edges but the broken one are well polished. The remaining specimen in the River Basin Surveys collection is the distal end of a bison metapodial, which has been cut from the shaft and is presumably a byproduct of preparation of the shaft for manufacture of an artifact.

The collection made by the Hewes party includes three objects of bone showing more or less modification. There are 2 fleshers, 1 broken near the working end, made of bison metatarsals by cutting diagonally through the shaft from the anterior to the posterior surface and producing a rounding chisellike edge where the cut meets the posterior surface. In each instance, a few narrow notches have been cut into the edge and the wear produced by use is on the cut side of the edge. The butt consists of the unmodified proximal end of the bone. The illustrated specimen (pl. 11, *10*) is 158 mm. long, and the other is almost identical in size. A fragment of rib of a large mammal, roughly broken at both ends, has a series of 10 short transverse scored lines near one end, but is otherwise unmodified (pl. 11, *7*). There is no evidence of wear or polish anywhere on the specimen.

TABLE 1.—*Artifacts from the Koehler site* [1]

Artifact	River Basin Surveys collection	North Dakota University-Historical Society collection	Illustrations
Pottery:			
Rim sherds (including lip)	62	10	Pls. 6, *1–15;* 7, *1–8, 10.*
Rim sherds (not including lip)	23	2	Pl. 6, *16–19.*
Body sherds	1, 288	215	Pls. 7, *9;* 12, *c, 2–6, 9.*
Stone artifacts:			
Projectile points	10	3	Pl. 8, *1–10.*
End scrapers	12	1	Pl. 8, *12–23.*
"Gouge"	1	0	Pl. 8, *24.*
Drill (?)	1	0	Pl. 8, *29.*
Long, narrow blades	13	0	Pl. 9, *1–11.*
Large blades	11	2	Pl. 10, *1–10.*
"Choppers"	10	1	Pl. 10, *11–16.*
Graverlike object	1	0	Pl. 8, *11.*
Circular bead	1	0	Pl. 8, *27.*
Disk bead	1	0	Pl. 8, *30.*
Incised tablets	[2] 2	0	Pl. 8, *25, 26.*
Amazon stone pendant	1	0	Pl. 8, *28.*
Hammerstones	2	1	
Bone artifacts:			
Awl	1	0	Pl. 11, *8.*
Chipping tools	2	0	Pl. 11, *11, 12.*
Fleshers	0	2	Pl. 11, *10.*
Spatulate objects	4	0	Pl. 11, *1–3, 6.*
Scored rib	0	1	Pl. 11, *7.*
Tubular bead	1	0	Pl. 11, *4.*
Perforated rib	1	0	Pl. 11, *5.*
Split bird-bone object	1	0	Pl. 11, *9.*

[1] Quantities include complete and fragmentary specimens.
[2] 4 fragments.

FAUNAL REMAINS

Bones were the most abundant remains in the site. A large proportion were exceedingly fragmentary and, not being identifiable, were not all collected. The bones in general were in such small fragments (pl. 5, *b*) that it seems certain they were deliberately crushed, probably to be boiled for the manufacture of bone grease (Leechman, 1951). An occasional bone was scorched. All bones which seemed to present any opportunity for identification (virtually all of these except vertebrae, tarsals, carpals, and phalanges were also fragmentary) were collected, but they probably constitute less than half the bulk of the total uncovered in the excavations. Of the 959 bones identified by Dr. Theodore E. White, 731 are of bison (*Bison bison*), and 217 are of the domestic dog (*Canis familiaris*). Other forms represented are beaver (*Castor canadensis*), by 9 bones; prairie dog (*Cynomys ludovicianus*), 1 bone; and a microtine rodent, 1 bone. It will be noted that a number of mammals ordinarily utilized by the Indians—deer, antelope, and elk, for example—are missing from this list; furthermore, bird and fish remains are entirely absent, except for the two artifacts made from bird bone previously noted. Horse bones are likewise absent. Approximately one-third of the dog bones and 22 percent of the bison bones are from immature individuals. It is not possible to arrive at a sound estimate of the numbers of individuals represented by the bison and dog bones, but, on the basis of the number of the most abundant element present (divided by 2), it can be said that there are at least 11 bison and at least 3 dogs. Probably considerably more individuals than these are represented.

Molluscan remains were scattered throughout the site, but by far the largest number were found in a single deposit, Feature 29. As identified by Dr. J. P. E. Morrison, they include six species of fresh-water mussels, most of which are represented by only a few specimens. Of the 750 identified shells, 698 belong to the species *Lampsilis siliquoidea* (Barnes); others are *Lasmigona complanata* (Barnes), 43 specimens; *Lampsilis ventricosa occidens* (Lea), 5 specimens; *Amblema costata* (Rafinesque); and *Quadrula quadrula* and *Anodonta grandis plana* (Lea), 1 specimen each. Seventeen fossil snail shells whose origin is the Fort Union formation are probably accidental inclusions in the cultural deposits; the species are *Ceriphasia nebrascensis* (Meek and Hayden) and *Compeloma multistriata* (Meek and Hayden).

CONCLUSION

The investigations in the Heart Butte Reservoir area, limited as they have been, provide some information relative to the aboriginal utilization of an area which until now has been entirely unknown archeologically. The number of sites revealed by the fairly intensive reconnaissance of a restricted segment of the Heart River valley indicates that the area west of the Missouri River in North Dakota was not avoided by aboriginal peoples, but much additional investigation will be necessary before even a sketchy knowledge of the prehistory of the area is acquired. The excavations in the Koehler site, although on a regrettably small scale, constitute a first step in the acquisition of such knowledge.

The evidence revealed by the excavations in the Koehler site suggests occupation by small groups, probably over a period of some years. There is no evidence, however, of any cultural change from bottom to top of the cultural deposit, so no considerable time span is indicated. No evidence of structures of any kind was uncovered, nor was there any evidence of storage pits, which facts lead to the conclusion that the mode of life was unlike that represented by the more or less permanent earth-lodge villages on the Missouri River to the east. The absence of remains of corn or other cultivated plants and of such agricultural tools as scapula hoes, while not conclusive, in view of the generally scanty specimen yield, suggests the probability that the inhabitants were not engaged in agriculture during their occupancy of the site. On the other hand, the relative abundance of bones and of mussel shells indicates a heavy reliance upon hunting and gathering for food. If the bones found in the site can be considered conclusive, the bison herds were exploited almost to the exclusion of other game animals; no deer or elk bones have been identified in the collections. The extremely fragmentary condition of the bones, probably indicative of the extraction of bone grease, would seem to imply that the site was not simply an overnight stopping place for groups on the move, but that it served as a headquarters during the hunt.

The artifact inventory, while leaving much to be desired from the standpoint of quantity and range of forms, seems to point unmistakably to a close relationship with certain sites which have been investigated on the Missouri River near the mouth of the Heart River. Specifically, resemblances to artifacts from the Double Ditch site, for which comparative data are available, seem very close. Many artifacts reported for the Double Ditch site are lacking in the Koehler site, as is to be expected in view of our small sample, but, on the other hand, it appears that all of the pottery and other artifacts from the Koehler site can be duplicated in the large collection from the Double Ditch site. The lack of metal and other White contact materials in our excavations is compatible with such a relationship, for the only items of trade goods reported from the excavations in the Missouri River site are two pieces of copper (Will and Spinden, 1906, p. 168).

It is suggested, in view of its location, its general character, and its apparent cultural relationships, that the Koehler site was a recurrently occupied hunting camp of a people closely related culturally to the occupants of the Double Ditch site. These occupants were presumably Mandan, since the Slant Village, virtually identical culturally (Strong, 1940, p. 363), was identified with this tribe by one of Lewis and Clarke's informants. While the absence of materials of Caucasian origin cannot be considered proof of a precontact date for the site, there is no doubt that a date prior to the acquisition of large quantities of such materials is indicated. This negative evidence, together with the positive evidence of a close cultural relationship to the Double Ditch site, points to occupancy in the 18th century, and perhaps in the first half of that century.

It appears probable that most of the other sites recorded in the reservoir area (see Appendix) can be similarly identified, although the collections are too scanty to permit more than tentative identifications. In each instance where pottery was recovered, it resembled that from the Koehler site. Whether the sites which yielded only flint materials represent different complexes or are simply workshop areas cannot be stated on the basis of present information. At the moment, evidence of any appreciable time depth in the area is lacking, but further investigation may alter this situation. At any rate, there seems no doubt that the western tributaries of the Missouri River constitute a fruitful field for future archeological research.

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APPENDIX

SITES IN THE HEART BUTTE RESERVOIR AREA

Following is a list and brief description of sites found in the Heart Butte Reservoir area by the River Basin Surveys in 1946 and 1948 and by the University of North Dakota-State Historical Society party in 1947. Except for site 32GT1, where fairly large-scale excavation was accomplished, and site 32GT5, where minor testing was done, none of these sites was excavated, even on a small scale.

Site 32GT1 (the Koehler site), a camp site of a pottery-using group in the NE¼ sec. 9 T136N R89W, was probably the most intensively occupied site in the reservoir area. Both the River Basin Surveys and the North Dakota University-Historical Society party undertook excavations here. The description of this site comprises the body of the present report. The site is flooded by the reservoir.

Site 32GT2, on a low terrace on the right side of the Heart River in the NE¼ NW¼ sec. 9 T136N R89W, yielded bone fragments at the time of the reconnaissance. The landowner reported pottery and flint artifacts had been found here in the past. Situated just across the river from the Koehler site, it may relate to the same occupation. It lies within the pool area and has been flooded.

Site 32GT3, on the left side of the river in the NE¼ NE¼ sec. 9 T136N R89W, was on the same terrace as the Koehler site, but across a shallow ravine. Fragments of bone only were observed by the reconnaissance party and Hewes reports that the same material was found in garbage pits dug by his party. It may be an extension of the Koehler site and has also been flooded.

Site 32GT4 consists of 5 groups of stones, 1 of which constitutes approximately half a circle and 3 of which are groups of stones somewhat resembling it but being rather irregularly arranged. The fifth has been disturbed by excavations of the landowner, who assumed it marked a grave but who reports having found no bones or other evidence. The site is in the SE¼ sec. 4 T136N R89W and is within the area flooded by the reservoir.

Site 32GT5, in the NW¼ sec. 13 T136N R89W, is a small, shallow rock shelter formed by the erosion of very soft sandstone underlying more firmly cemented materials. Numerous fallen slabs lying on the slope below the shelter and elsewhere in the vicinity (pl. 12, *a*, *b*) suggest a lack of stability in the situation which would preclude the possibility of occupation over a long period of time. The present floor is composed of an exceedingly fine sand. The shelter faces to the northwest, toward the prevailing winds, and on windy days would be untenantable; sand whipped up by such a wind made work almost impossible during a half day spent here by the River Basin Surveys party. Evidence of casual occupation was found by the Hewes party in 1947, when a few sherds from a single pottery vessel, points, and many spalls and chips are reported to have been found (Hewes, 1949 a, p. 22). The pottery, which is apparently in the same tradition as that at the Koehler site, has been described by Hewes (1949 b, p. 61). It has a grooved and ridged body and a concave-convex upper rim decorated with a band of diagonal cord impressions (pl. 12, *c*, *1*, *7*). A point in the collection on loan from the State Historical Society of North Dakota (pl. 12, *c*, *8*) is small and triangular and has a slightly concave base and a pair of side notches. The sides are serrated. The spalls and flakes are of "Knife River flint."

During a very brief examination of the site in 1948, the basal fragment of a small, probably triangular, point with a concave base and a number of flakes and spalls of "Knife River flint" were found on the surface. In addition, a small sherd from the lip of a vessel and a few additional fragments of "Knife River flint" were collected just beneath the surface in a 5- by 10-foot test trench at the outer edge of the shelter. Otherwise the trench yielded no certain evidence of occupation, although there were occasional flecks of charcoal mixed with the otherwise sterile fine sand. The sherd is too small for satisfactory identification, but could very well be from a vessel like a number represented by the sherds from the Koehler site. Immediately above the dam, the site is believed to have been destroyed by flooding.

Site 32GT6 is a deposit of bison bones, exposed in the eroding bank of the Heart River in the NE¼ sec. 8 T136N R89W. At the time it was observed in 1948, the deposit was 0.1 to 0.75 feet thick, but it was reported that, previous to recent cutting by the river, it was as much as 3 feet thick. The top of the layer of bones was at a depth of about 10 feet beneath the surface. A fragment of a projectile point, perhaps corner notched, was found at the edge of the river below the deposit, but it may not have originated in the bone deposit. Presumably a bison kill, this site would undoubtedly have repaid investigation had resources been available. Lying on the immediate bank of the river, it was flooded soon after water storage began.

Site 32GT8, in the SW¼ sec. 10 T136N R90W, is apparently a small camp site which occupies a terrace finger on the south side of the Heart River. Four small pottery sherds, collected from the terrace slope below the site, are decorated with cord-impressed lines and resemble pottery from the Koehler site. The site is within the area of flooding.

Site 32GT9 is a single boulder circle reported to lie in the SE¼ SW¼ sec. 1 T136N R90W, on the south side of the Heart River. No artifacts were found on the site, which has been covered by the reservoir waters.

Site 32GT10 is an occupational area, apparently a small camp site, on a terrace on the north side of the Heart River in the NW¼ SE¼ sec. 2 T136N R90W and within the reservoir pool area. The cultural evidence on the surface consisted of a single cord-impressed rim sherd, similar to those found in the excavations at the Koehler site, two retouched flakes, and nine unworked fragments of stone. The stone is "Knife River flint" and gray chert.

Site 32GT11, in the NW¼ SW¼ sec. 3 T136N R90W, is an occupational site buried beneath slope wash on a terrace which is being cut by the Heart River. The occupational layer, in which basin-shaped fireplaces and deposits of bison bones and mussel shells were observed, lies an average of 3.5 feet beneath the present surface. Two pottery sherds, one plain and one simple stamped (bearing parallel grooves and ridges), a triangular chert end scraper, a broken blade of "Knife River flint," and cores, spalls, and flakes, mostly of "Knife River flint," and an unfinished bone awl were collected. The site has been flooded.

Site 32GT12 is on high land on the north side of the Heart River in the SE¼ SW¼ sec. 35 T137N R90W. Numerous flakes and a few cores, all of "Knife River flint," were collected from the surface of the site, which may be a quarry, since the materials are reported to be exposed in shallow depressions. The site is apparently not subject to flooding.

Site 32GT13, in the SE¼ SE¼ sec. 3 T136N R90W, is a camp site lying on a terrace about 15 feet above the Heart River and on the north side of that stream. Four small simple-stamped sherds and fragments of "Knife River flint" were found on the surface of the terrace, which lies well below the reservoir level.

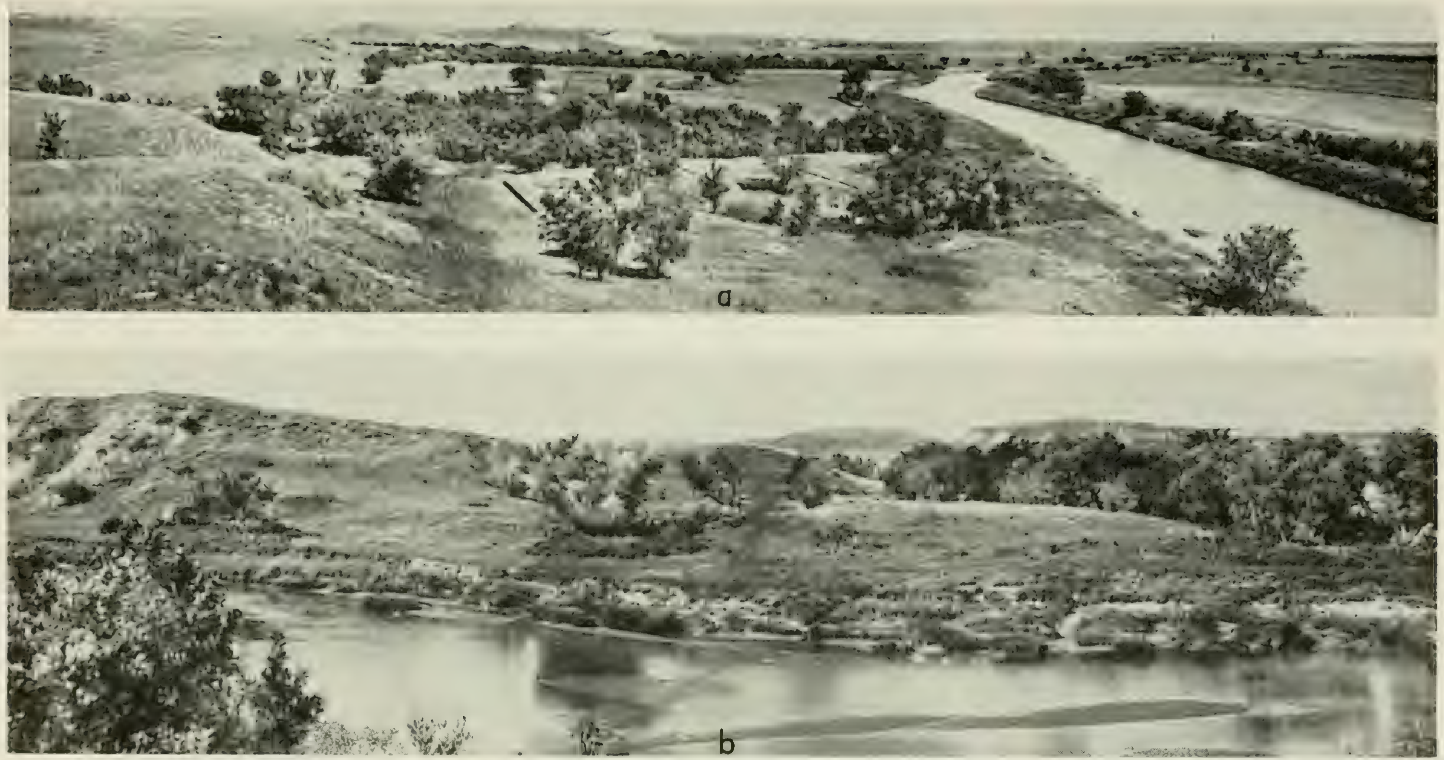
Site 32GT14 is a camp site on a fairly low terrace on the north side of the Heart River, in the NE¼ SW¼ sec. 34 T137N R90W. Ten small sherds, one bearing decoration with single cord impressions and others with simple-stamped surfaces, and a number of chalcedony fragments, mostly "Knife River flint," were collected from the surface, which is now covered by the reservoir.

Site 32GT15 occupies the crest of a knoll on the north side of the Heart River in the NW¼ NW¼ sec. 34 T137N R90W and within the flooded area. Fragments of bone and of flint and other stone were observed on the surface and a single end scraper of "Knife River flint" was collected.

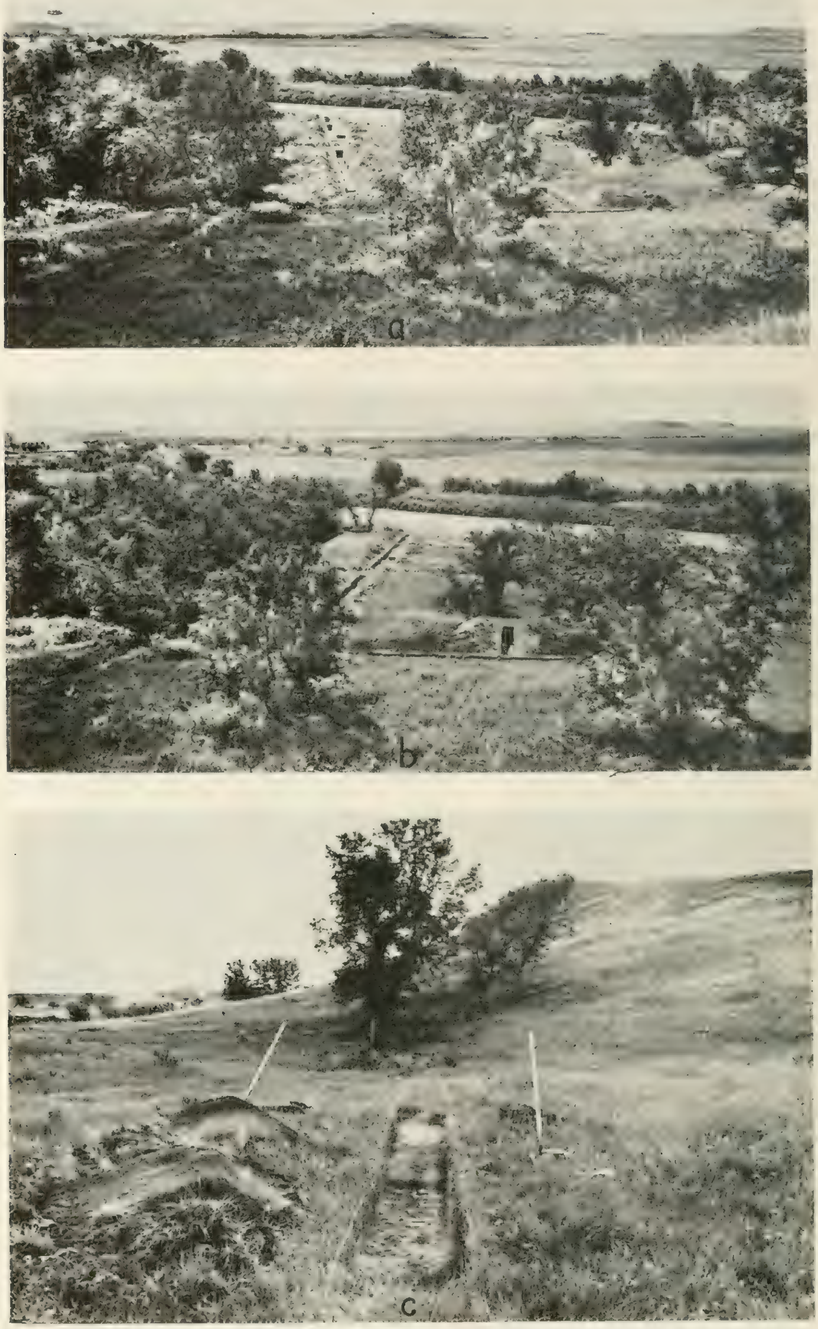
Site 32GT16 is a small area on the north side of the Heart River which yielded a number of flakes and cores of "Knife River flint." Three depressions, which may represent quarry pits, are reported. The site is in the W½ W½ sec. 35 T137N R90W within the flooded area.

Site 32GT22, not observed by the River Basin Surveys party, is reported by Hewes (1949 a, p. 22) to be a quarry yielding chalcedony spalls and a few tools in the SW¼ NE¼ sec. 1 T136N R90W. It occupies a knoll on the north side of the Heart River and will apparently be flooded.

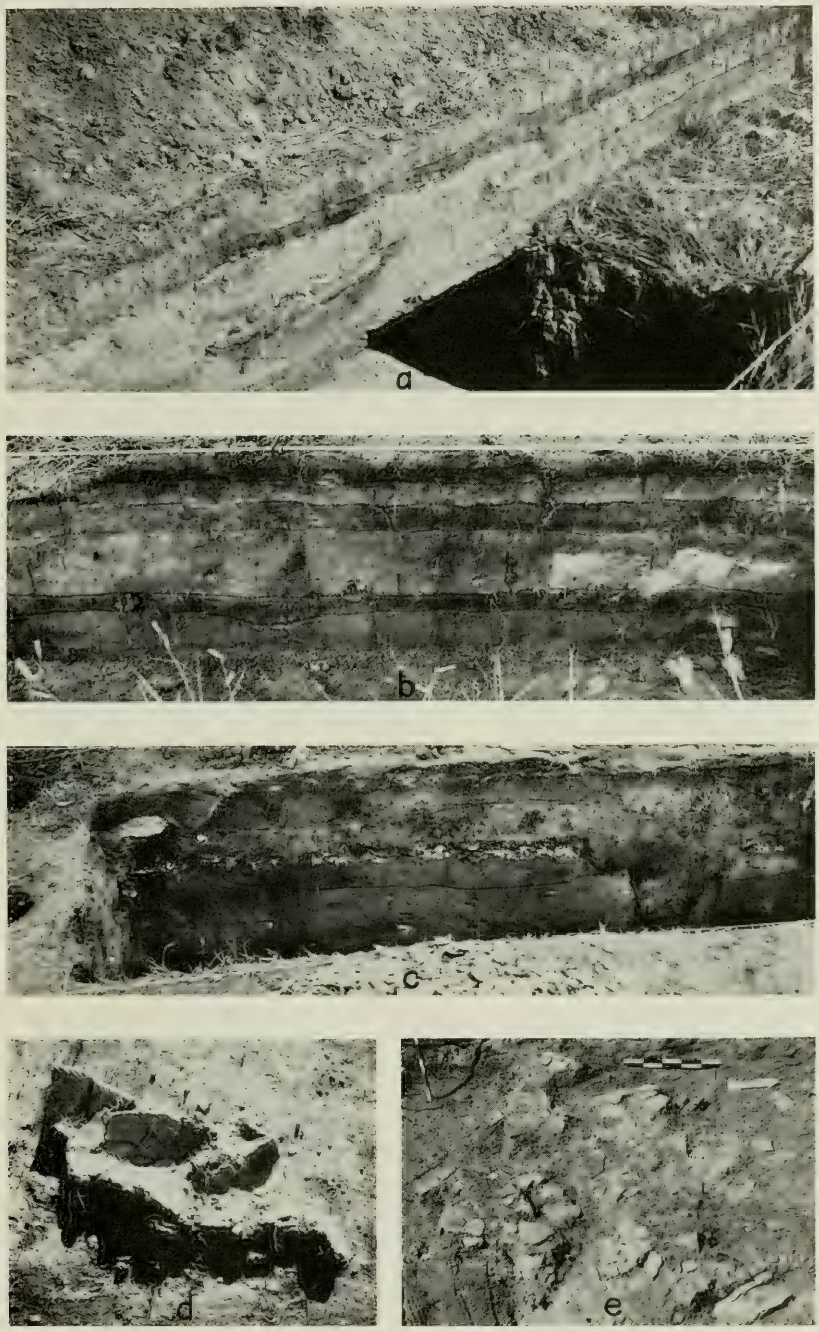
Site 32SK4 is a pottery-bearing camp site on a low terrace on the north side of the Heart River in the NW¼ SW¼ and SW¼ NW¼ sec. 12 T137N R91W. Approximately 60 small sherds, 2 end scrapers, and a quantity of chips were collected from the surface. The sherds, most of which are simple stamped, resemble the pottery from the Koehler site. This site probably lies slightly above the reservoir pool and, accordingly, will be available for future investigation.



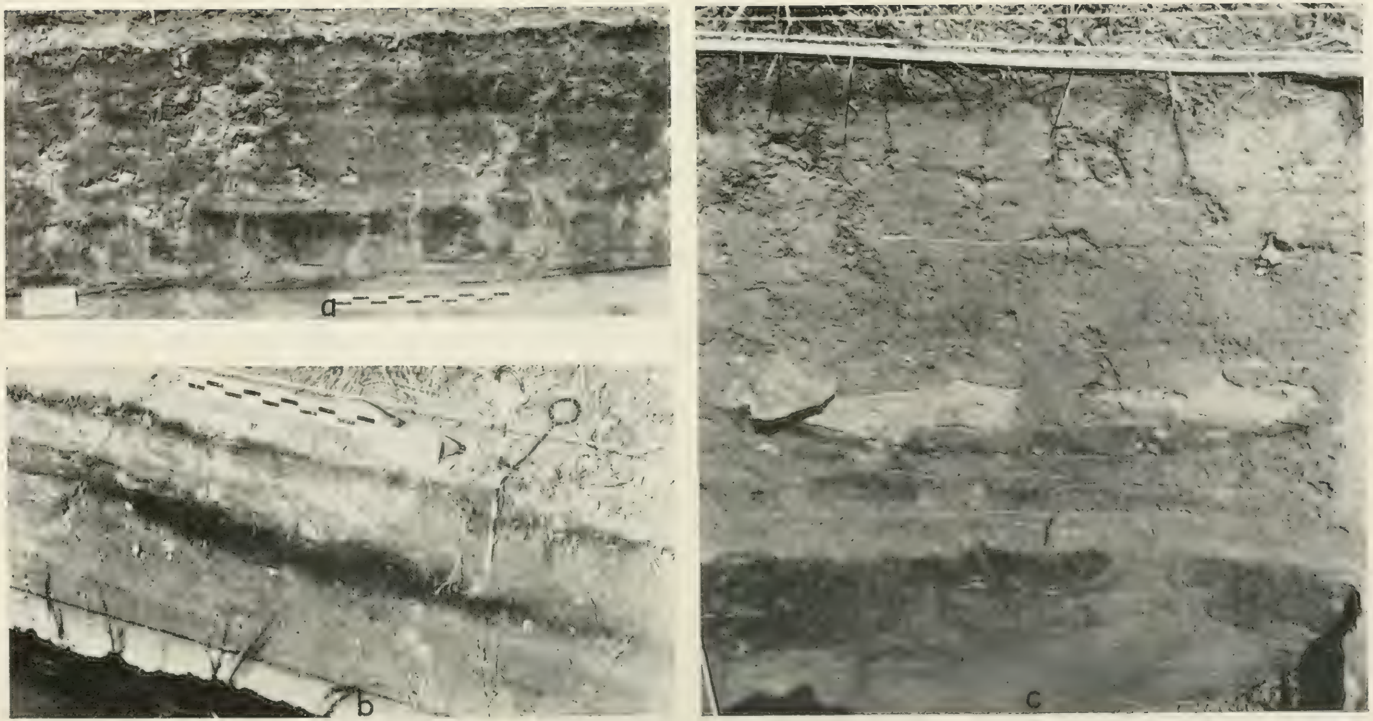
Views of Koehler site (32GT1). *a*, To east (downstream) from adjacent hill. *b*, To north from across Heart River.



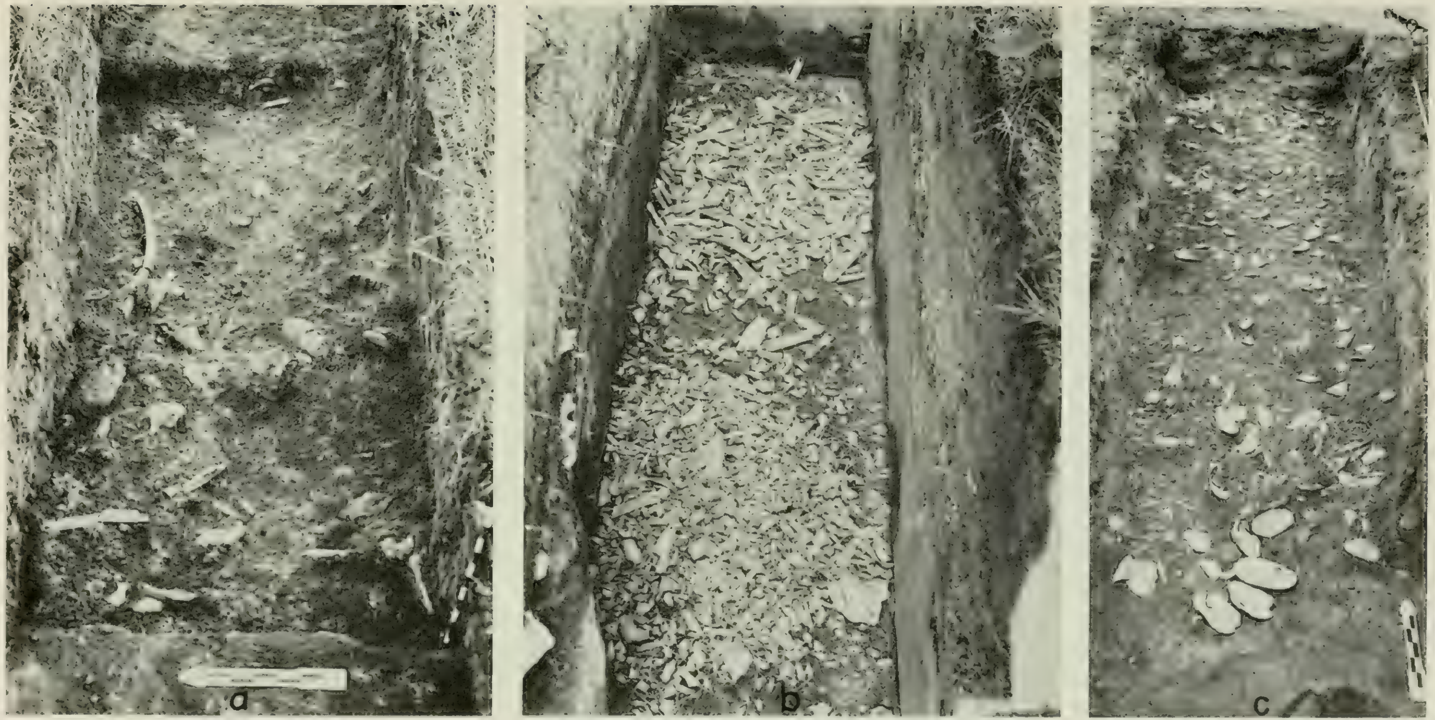
Koehler site (32GT1) during excavation. *a*, *b*, Excavation trenches. Heart River in background. *c*, Excavation unit 1 in early stage, toward site west. Excavation floor nearest camera is at top of cultural deposit.



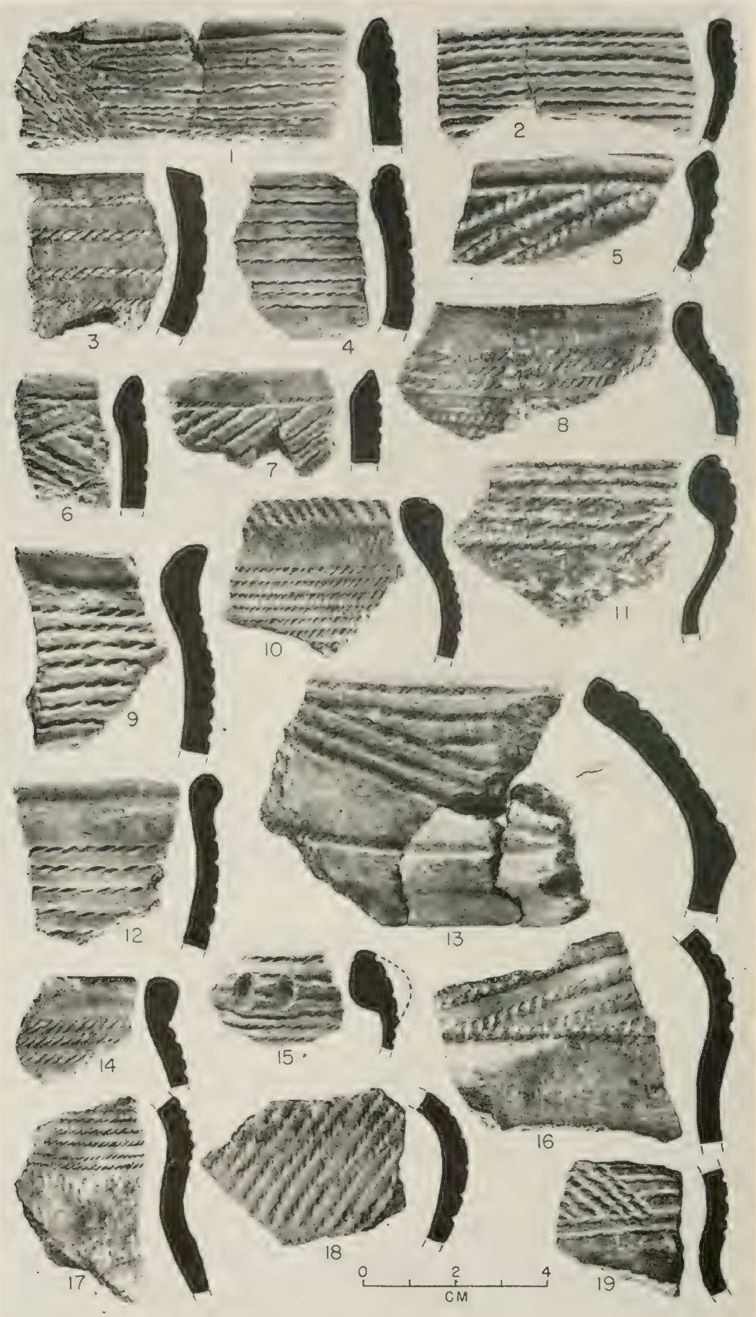
Koehler site (32GT1). *a*, Profile on W15 line, N50 to approximately N62, with zones marked. Top to bottom, zones B–F. Fireplace, Feature 32 at left. *b*, Typical profile of N45 line, W70.3 to W75.2, with zones marked. Top to bottom, zones A–F. *c*, Profile on W15 line, N85 to N92, showing deposit of mussel shells, Feature 29, and beneath it, shallow pit, Feature 43. Recent pit at right. *d*, Pottery fragments, Feature 28, in situ. *e*, Pottery fragments, Feature 30, in situ.



Koehler site (32GT1). *a*, Typical profile on N47.5 line. Top to bottom, zones A–F. *b*, Profile of fireplace, Feature 35, on W15 line. *c*, Profile of fireplace, Feature 7, on N175 line.



Koehler site (32GT1). *a*, Top of cultural deposit in excavation unit 1, square N170W50, showing nature of cultural debris. *b*, Discarded unidentifiable bones recovered from Feature 19. *c*, Top of deposit of mussel shells, Feature 29.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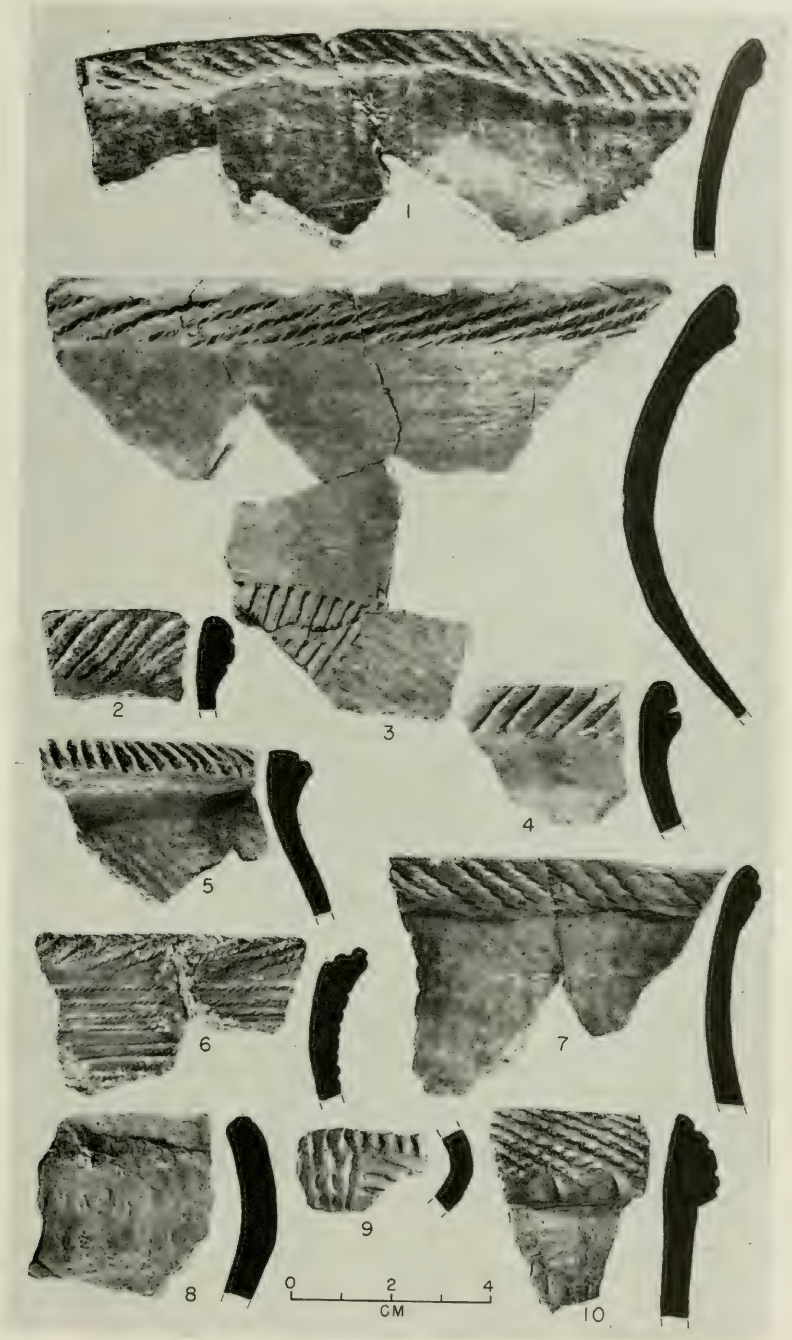
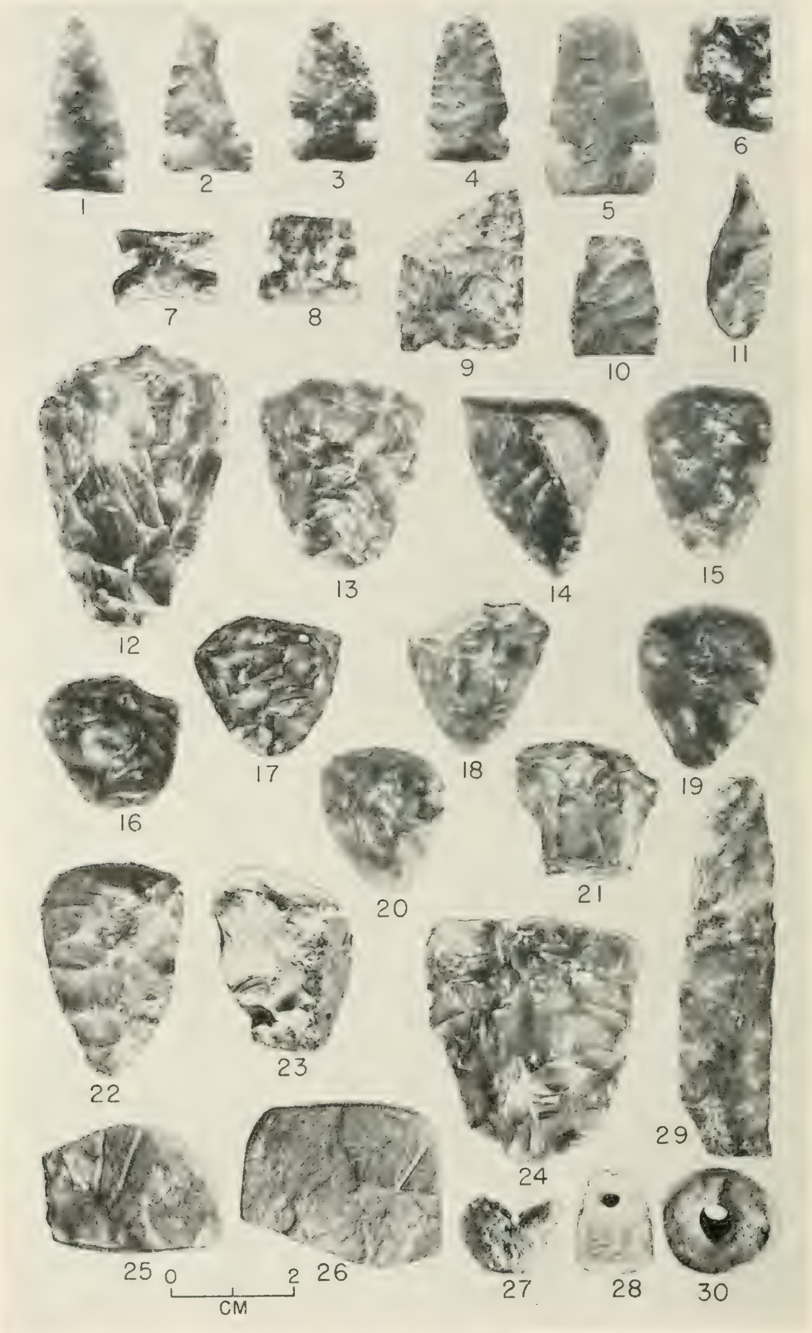
Pottery rim sherds from the Koehler site (32GT1). Interiors of profiles to left.



Pottery sherds from the Koehler site (32GT1). All are rims except 9, which is from the shoulder area. Interiors of profiles to left.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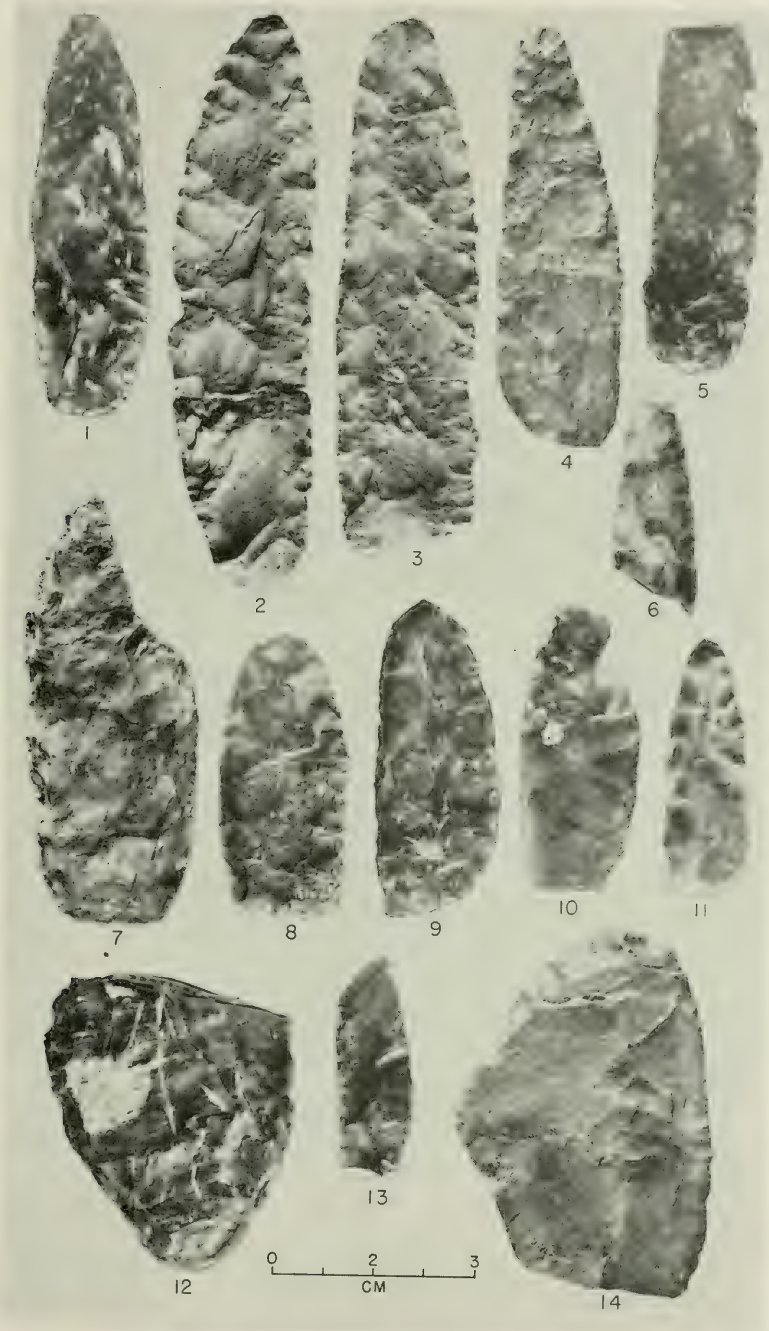
Stone artifacts from the Koehler site (32GT1).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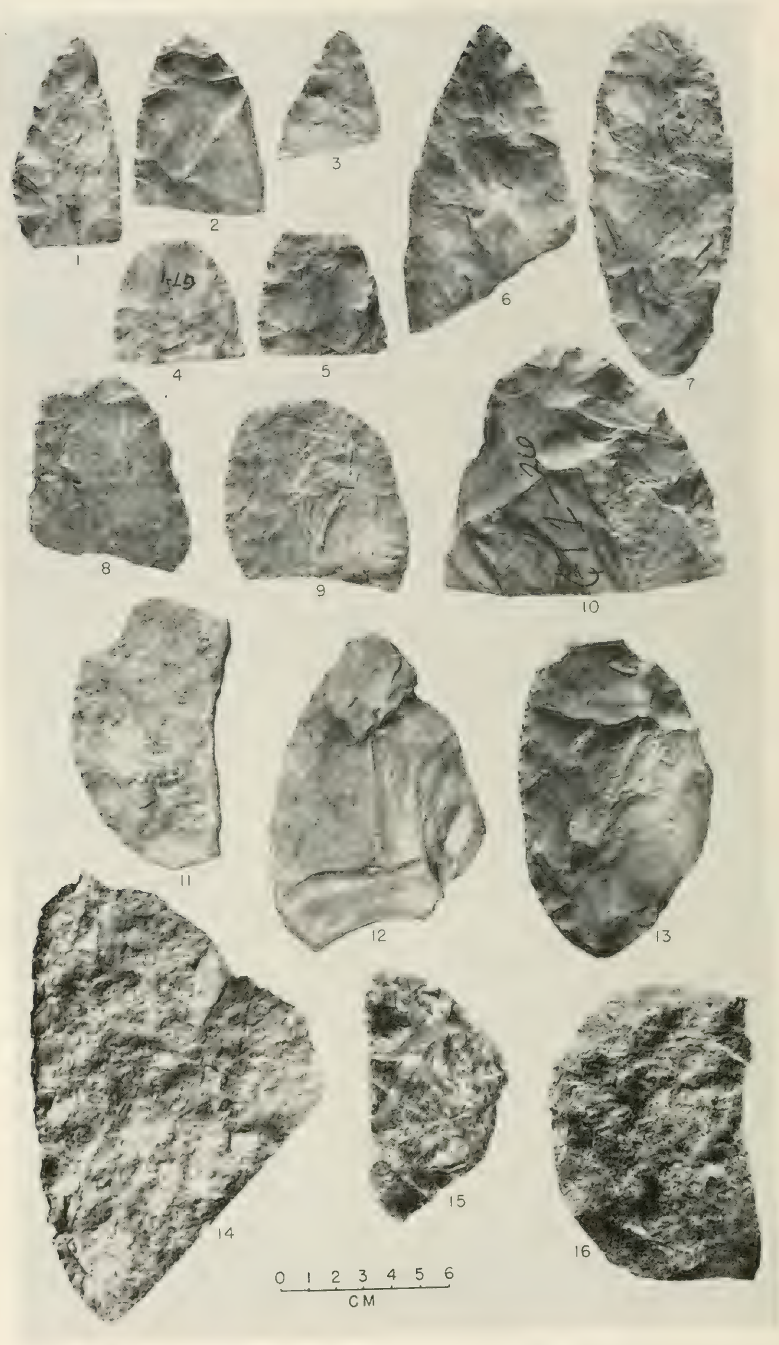
Chipped stone artifacts from the Koehler site (32GT1). *1–11*, blades; *12–14* retouched flakes.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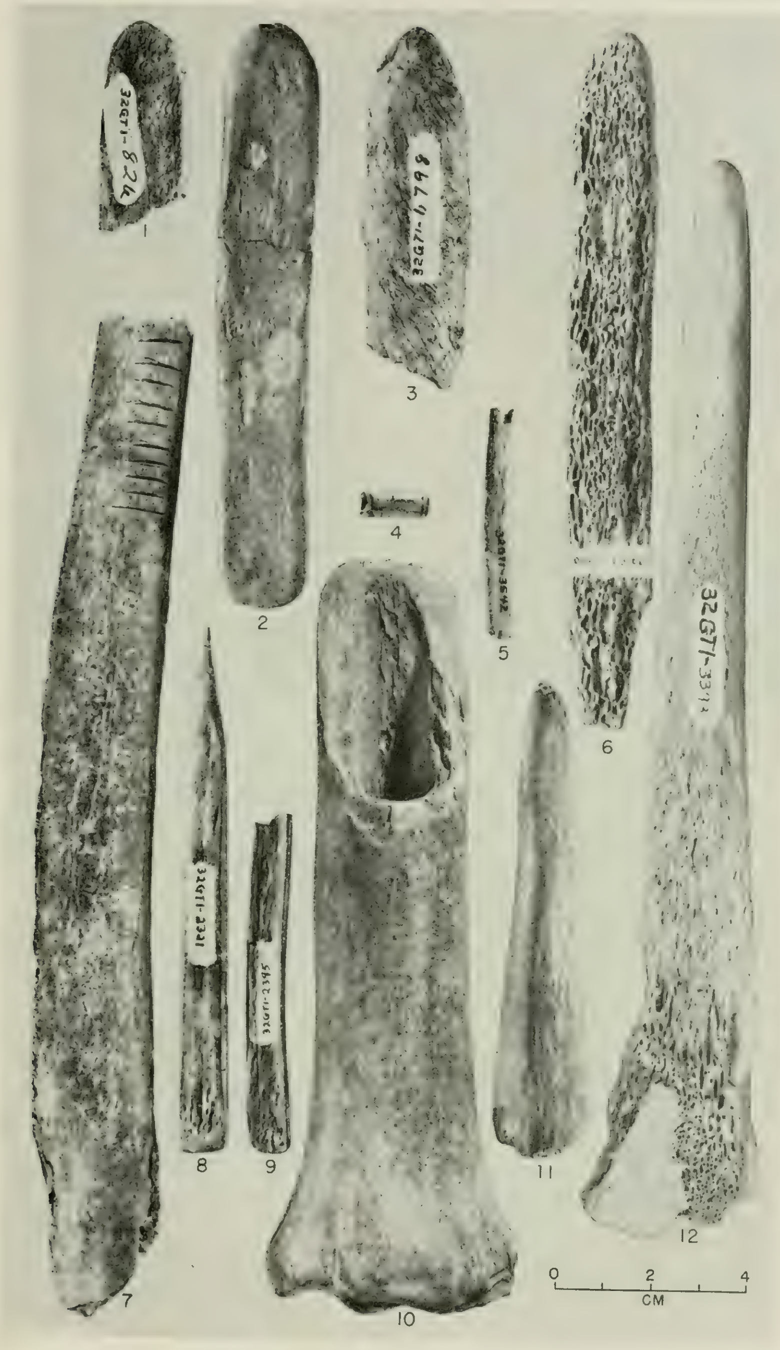
Large blades and "choppers" from the Koehler site (32GT1).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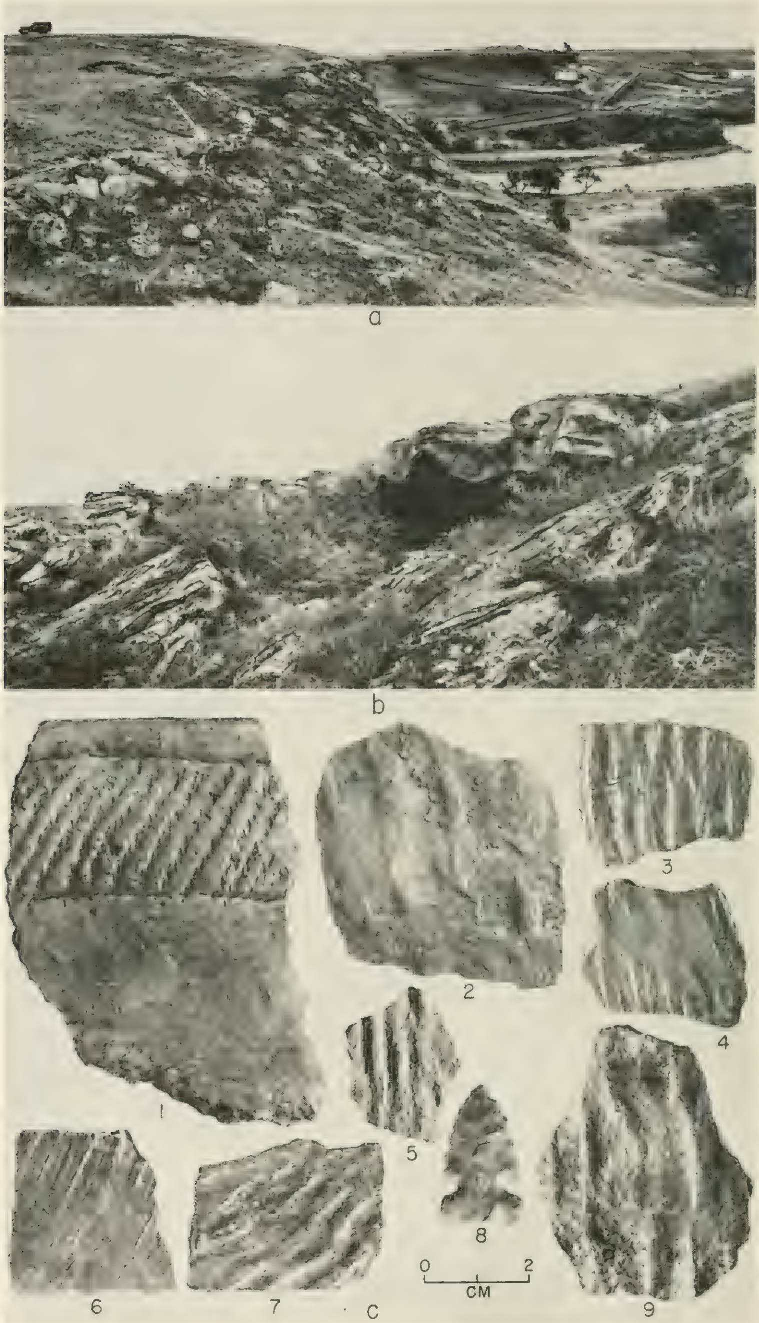
Bone and antler artifacts from the Koehler site (32GT1).



a, Site 32GT5, rock shelter (arrow), to southeast. *b*, Site 32GT5, rock shelter, to northeast. *c*, Artifacts from Koehler site (32GT1) and rock shelter, site 32GT5. *2–6*, *9*, body sherds from Koehler site; *1*, *7*, *8*, from site 32GT5.

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River Basin Surveys Papers, No. 10

Archeological Investigations at the Tuttle Creek Dam, Kansas

By ROBERT B. CUMMING, Jr.

422141—58——5

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ARCHEOLOGICAL INVESTIGATIONS AT THE TUTTLE CREEK DAM, KANSAS [1]

By Robert B. Cumming, Jr.

INTRODUCTION

The Missouri Basin Project of the Smithsonian Institution River Basin Surveys, conducted archeological excavations in the construction area of the Tuttle Creek Dam site from June 10 to June 30, 1953. These field activities and the present report resulting from them were a part of the Inter-Agency Archeological Salvage Program. This program combines the cooperative efforts of the Smithsonian Institution, the National Park Service, the Corps of Engineers, the Bureau of Reclamation, and various State and local agencies. Details of the organization, background, and accomplishments of this program are published elsewhere (e. g., Brew and others, 1947; Wedel, 1947; Roberts, 1952) and need not be detailed here. Lack of funds prevented extensive fieldwork in the season of 1953 in any of the localities of the Missouri River Basin. However, some money was available and this was diverted to the areas of most critical salvage needs. Tuttle Creek was one of these.

Previous archeological investigations in the area to be flooded by the Tuttle Creek Reservoir had located upward of 119 sites, 9 of which were situated in the immediate construction area of the dam (Solecki, 1953 a, p. 6). Of these, 5 would not be destroyed until the later phases of dam construction but 3 were already partially destroyed and the fourth was in imminent danger of destruction from dam-building activities. The field party, limited by funds to only 3 weeks, selected 1 site (14PO14) for complete excavation and conducted sampling tests in the other 3. The field party was under the direction of the writer and James M. Shippee, of the Smithsonian Institution, River Basin Surveys staff. Linwood L. Hodgdon, assistant professor of Anthropology at Kansas State College, acted as field assistant. Marvin Carlson, Randall Weeks, Alfred Johnson, and John Hennes made up the remainder of the crew. The writer wishes to express sincere appreciation for the splendid work of the entire crew during the field season. Long range direction of the project was given by Dr. Frank H. H.

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[1] Manuscript submitted April 1954; some revision July 1956.

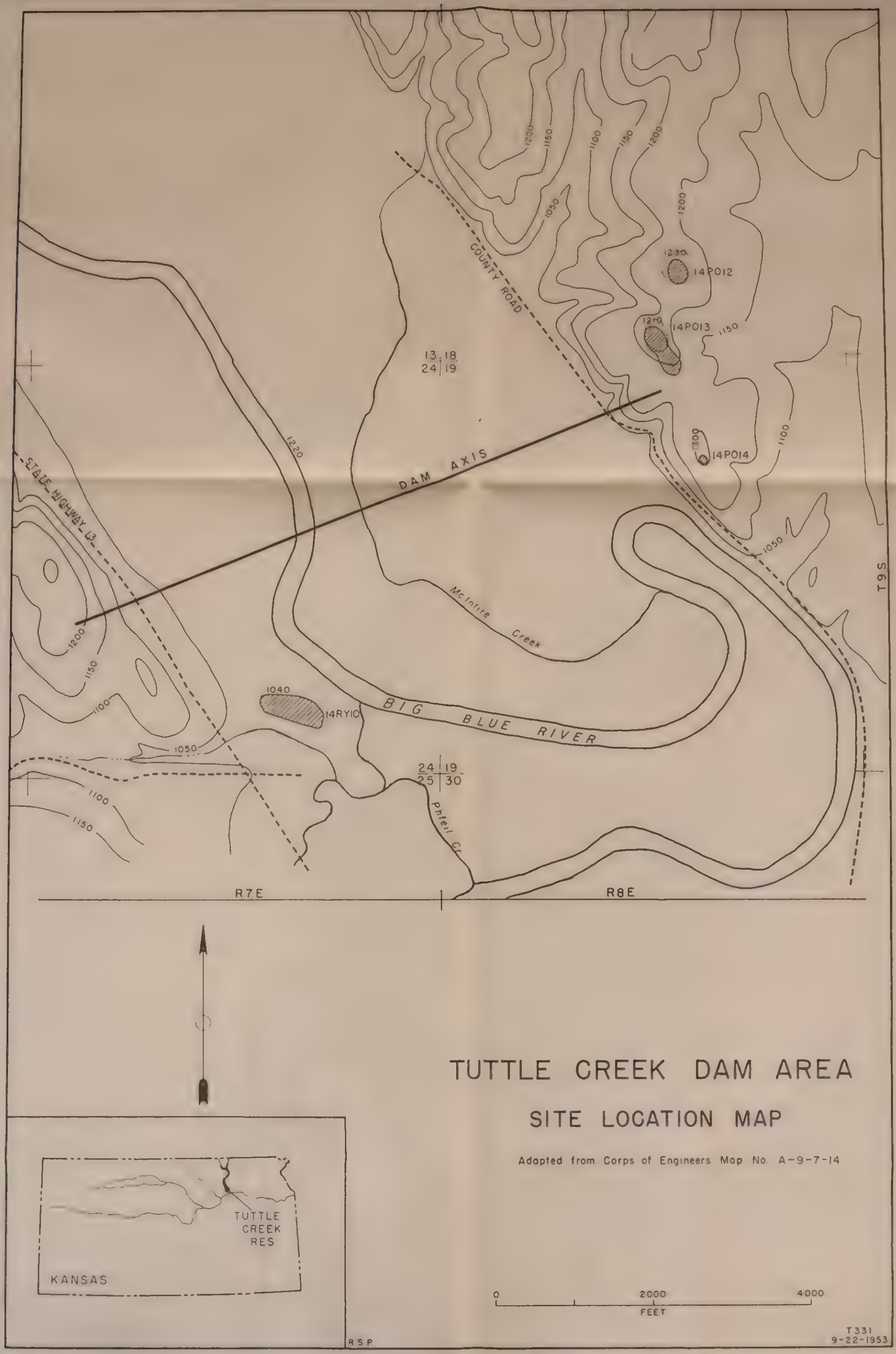
Roberts, Jr., Director of the River Basin Surveys, and Robert L. Stephenson, acting chief of the Missouri Basin Project. The assistance given the field party by Burney V. Reany, project engineer, Corps of Engineers, and by the many others who so generously volunteered their help is gratefully acknowledged. The writer also wishes to express his apprecation to Dr. John L. Champe, of the University of Nebraska, for his assistance and advice; to Dr. G. Neumann, of the University of Indiana; and to Dr. T. D. Stewart, of the National Museum, for their criticisms and suggestions; and to Roy W. Drier, of the Michigan College of Mining and Technology, for the metallographic examination of the copper specimens.

At the termination of work on site 14RY10, evidence of a dwelling structure had been found, but time limitations did not permit excavation of the structure. Subsequent investigations at this site were made possible by a volunteer party organized by Dr. Linwood L. Hodgdon and consisting of himself, John Hennes, Warren Shaw, and James Tuback of Kansas State College; Dr. John L. Champe, Mary Kiehl, and Raymond Wood of the Laboratory of Anthropology, University of Nebraska; Harold A. Huscher of Columbia University; and Dr. Theodore E. White, Lee Madison, and Francis Brown of the Missouri Basin Project. This volunteer party worked at the site for about a week in July 1953. It is contemplated that Dr. Hodgdon and others will cooperate on a separate report of the overall activities at this site in the near future. Consequently only a brief account of the testing accomplished here in June 1953 by the Smithsonian Institution party will be included in the present report.

SITUATION AND ENVIRONMENT

The proposed Tuttle Creek Reservoir area is located in the Big Blue River basin in northeastern Kansas (map 3). The dam site is located approximately 12 river miles upstream from the junction of the Big Blue River and the Kansas River, or about 6 miles north of the town of Manhattan, Kans. The Tuttle Creek Dam, a Corps of Engineers project, is to be an earthfill structure 7,350 feet long and 136 feet high. Its purpose is the storage of flood waters from the 9,550 square miles of drainage area of the Big Blue River, above the dam.

The Tuttle Creek area lies within the Interior Plains physiographic division, Central Lowland province, dissected till Plains section (Fenneman, 1931), and within the Tall Grass, Prairie Grassland vegetation area of Shantz and Zon (Kroeber, 1947). Locally the Big Blue River flows through a flat alluvial valley, a little over a mile in width, with the dissected tableland bluffs rising several hundred feet above the flood plain. In the area as a whole, dark brown silty soils underlain by a yellowish brown subsoil are characteristic. The rich, alluvial soil


TUTTLE CREEK DAM AREA
SITE LOCATION MAP
Adapted from Corps of Engineers Map No. A-9-7-14
DAM AXIS
COUNTY ROAD
STATE HIGHWAY 13
BIG BLUE RIVER
McIntire Creek
Phfeil Cr.
14PO12
14PO13
14PO14
14RY10
1230
1210
1200
1040
1220
1200
1150
1100
1050
13 18
24 19
24 19
25 30
R7E
R8E
T9S
KANSAS
TUTTLE CREEK RES
0
2000
4000
FEET
RSP
T331
9-22-1953

MAP 3.—Site location map of the Tuttle Creek Dam area.

of the flood plain is excellent for farming, and the bottom lands are and have been under cultivation for many years. The upland slopes are, for the most part, in pasture. On the top of the bluffs a shallow soil cover is underlain by the limestone and shales of the Wolf Cap group of the Permian.

The climate throughout the general region is characterized by warm summers, with an average temperature of 70° to 80°, and cold winters. Temperatures are very changeable and show a wide range of variation. Maximum temperatures as high as 121° and minimum temperatures as low as 40° below zero have been recorded (Kansas Agr. Exp. Sta., 1937, p. 5). The prevailing winds are from the south in summer and from the north in winter. The growing season averages 170 to 180 days. Average annual precipitation is from 32 to 34 inches, with about 70 percent falling within the warm season (U. S. Dept. Agr., 1941), thus making the region quite suitable for primitive horticulture.

There is an abundant growth of trees and shrubs along the river valley. The following have been observed within the reservoir area: cottonwood, elm, burr oak, walnut, hard maple, sycamore, willow, linden, ironwood, box elder, buckeye, hackberry, juniper, honey locust, pignut, redbud, dogwood, buck brush, and sumac. Food-bearing plants native to this area include mulberry, plum, hazelnut, elderberry, gooseberry, chokecherry, and grape.

Game formerly abundant throughout this area included elk, deer, antelope, bison, bear, wolf, cougar, wildcat, otter, and turkey. At the present time mink, muskrat, red squirrel, gray squirrel, woodchuck, beaver, opossum, raccoon, coyote, and rabbit may all be found. Quail and prairie chicken inhabit the uplands and ducks and geese are and were plentiful during the migratory season.

The valley of the Big Blue River, in northeastern Kansas, provided excellent resources for hunting and gathering cultures, and an extensive utilization of long duration of these resources is indicated by the Survey's location of approximately one hundred nonceramic sites in the Tuttle Creek Reservoir area alone.

ETHNOLOGICAL AND ARCHEOLOGICAL BACKGROUND

During the historic period the Tuttle Creek Dam area was well within the habitat of the Kansa Indians. To the north of their range, near the Nebraska border, were the Pawnee, to the south and southeast the Osage, to the east across the Missouri the hunting range of various tribes such as the Iowa and Sac, and to the west, in the high plains, the hunting ground of the Apache, Comanche, Sioux, Cheyenne, and others. During the beginning of the historic period the Wichita inhabited the area about the great bend of the Arkansas River.

According to Kansa tradition, the Kansa moved upstream along the Missouri River as far as the Nebraska border and were then forced southward (Wedel, 1946, p. 6) ; however, this has not as yet been verified by archeological investigations. The distribution of identified Kansa village sites, recorded by Wedel (ibid., p. 2), shows the Kansa to have been along the Missouri River, at the Doniphan site, near the town of Doniphan in 1724; along the Kansas River, at the Salt Creek site, about 6 miles from the town of Leavenworth in 1757; at the "Old Kansas village" reported by Lewis and Clark, between the junction of Soldier Creek and Cross Creek with the Kansas River in 1804; and at the Blue River site, about 2 miles east of the town of Manhattan, and about 6 miles downstream from the Tuttle Creek Dam from about 1800 to 1830. Three known village sites, between the junctions of Cross Creek and Soldier Creek with the Kansas River, were inhabited during the period of 1830 to 1846. From 1847 to 1873 the Kansa lived in three villages below the town of Council Grove on the Neosho River. From there they were removed to Indian Territory.

The section of the Big Blue River valley to be inundated by the Tuttle Creek Reservoir was virtually unknown archeologically until the summer of 1952. At that time a Smithsonian Institution reconnaissance party consisting of Ralph S. Solecki and James M. Shippee examined most of the area. The reconnaissance of the area, even yet incomplete, yielded evidence of 119 archeological sites. The only excavated site near this area was the Blue River site, the historic Kansa village, 2 miles east of the town of Manhattan (Wedel, 1946, p. 2). The abundance of archeological remains that have been and are being found in this area clearly indicate that northeastern Kansas has been inhabited from very early prehistoric to historic times. Suggestions of Paleo-Indian occupation are found here as evidenced by occasional artifacts identified with the Folsom and Plainview groups (Solecki, 1953 b, p. 52–53, and Shippee, 1953, p. 54). Sites of other preceramic or nonceramic groups are abundant. Cultural manifestations of Woodland, Upper Republican, and Nebraska cultures have been found, and it is quite probable that further investigation will also disclose elements of the Oneota and Hopewellian cultures.

SWEAT BEE MOUND (14PO14)

FIELDWORK

This site is located in Pottawatomi County, Kans., in the NW¼ NE¼ sec. 19, R8E T9S. It consists of a rock mound situated on a prominent elevation along the top of the ridge bordering the east side of the Big Blue River flood plain (pl. 13, *a*). Site 14PO13 is about 500 yards farther north along the same ridge. From the mound, which is about 180 feet above the Big Blue River, a fine view may be had of the valley below. The slopes of the ridge are wooded, and the top sparsely covered with grass and brush, and studded with limestone rocks. Beneath a shallow, dark, soil zone at the surface is a gravel stratum underlain by bedrock limestone and shale.

The method of excavation consisted of first clearing the mound of grass and brush (pl. 13, *b*), laying out a grid of 10-foot squares, and establishing a site datum. The partial dirt cover over and between the rocks was then removed, outlining the entire extent of the mound. Surface elevations were taken and the mound was mapped (pl. 15, *a*). The rock-slab covering was then removed, leaving a small profile section in place until excavation of all else was completed. The entire mound fill was screened (pl. 14, *b*).

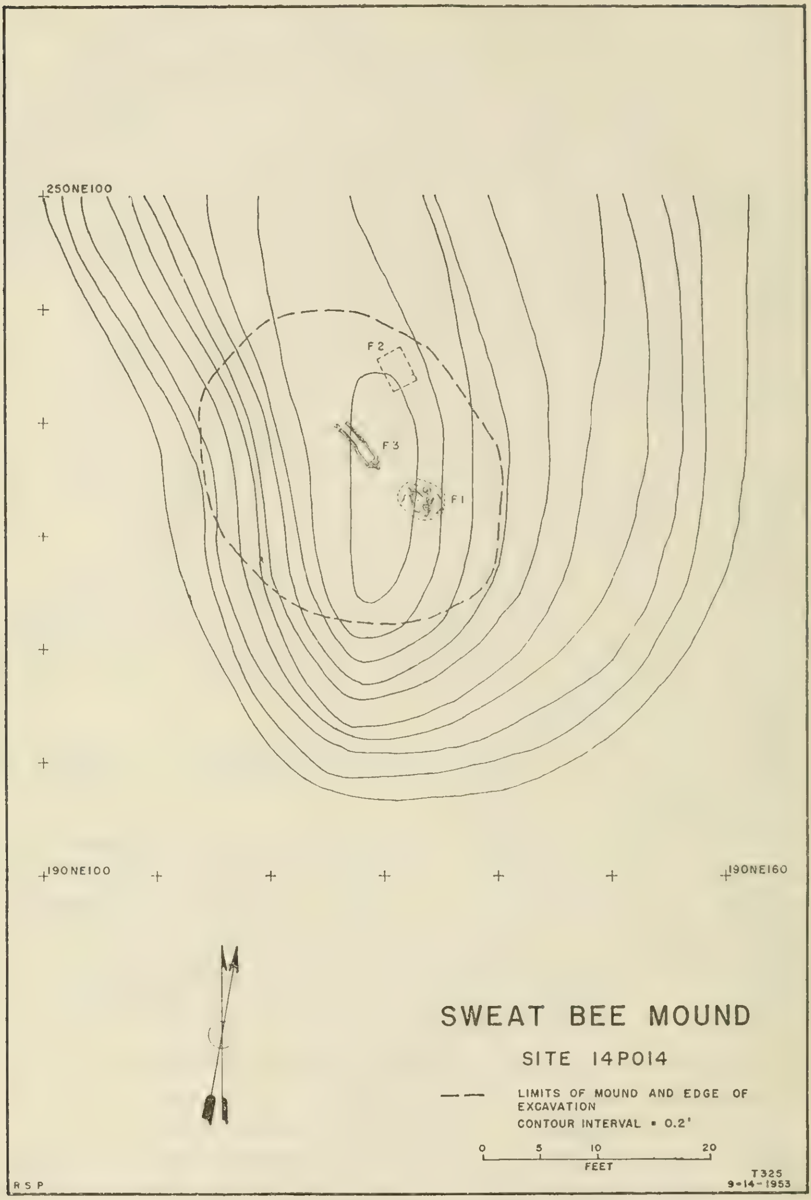
Before excavation the mound appeared as a small, circular, earth and stone hummock, grass-covered between the rocks with a clump of brush near the south side. After clearing off the brush, grass, and dirt, above and between the stones, the mound was found to be irregularly circular in shape, 26 feet in diameter and 1½ feet high (map 4). The mound structure consisted of a pile of irregularly shaped limestone slabs, placed without any semblance of order, but in sufficient quantity to completely cover and protect that which lay beneath. The covering rocks ranged from small fragments to slabs 3 feet long, 1½ feet wide, and nearly a foot thick (pl. 14, *a*). It seems most probable that the dirt over and about the stones had blown in during later years, and that the mound, as originally built, was a stone-slab mound.

The remains of 7 individuals were found within the mound, 6 of whom were in 1 pit (Feature 1) and 1 (Feature 3) on top of the gravel underlying the mound.

After the mound had been cleared off and some of the upper stones removed, a basinlike pocket was found in the rock covering, 7 feet in from the east edge and 3 feet south of the center of the mound. This proved to be the location of Feature 1. Feature 1 was an oval-shaped pit 3 feet in north-south diameter, 3⅘ feet in east-west diameter, and 2 feet in depth from the surface of the gravel underlying the mound. Limestone slabs had been placed around the perimeter of the pit and rocks thrown within it, covering a group of three burials that lay within the pit at the level of the base of the surrounding slabs.

Two distinct groups of burials were found within Feature 1. Burials 1, 2, and 3 were at the level of the gravel base of the mound, and were surrounded by the rock slabs (pl. 15, *b*). Burials 4, 5, and 6 were within the pit below the base of the mound (pl. 16, *a*). The upper-level burials were mixed with soil and stones and covered over by a foot of stone rubble. The bones were crushed, badly weathered, and, to a considerable extent, jumbled together.

Burial No. 1, in the center of the pit, was a semiflexed, primary burial. A large rock slab had settled through the midsection of the skeleton, that of an old adult female, crushing the bones beneath. The


250NE100
F2
F3
F1
190NE100
190NE160
SWEAT BEE MOUND
SITE 14P014
LIMITS OF MOUND AND EDGE OF EXCAVATION
CONTOUR INTERVAL = 0.2'
0
5
10
20
FEET
RSP
T325
9-14-1953

Map 4.—Site map of Sweat Bee Mound (14P014).

burial was oriented along a north-south axis, with the head to the north, facing east, and rested on its left side. The manner of displacement of the bones of the other upper-level burials in the pit indicated that burial No. 1 was the last to be placed in the pit, and that the other burials had been pushed aside to make room for it.

Burial No. 2 was the remains of an old adult male. The right side of the skull was completely crushed and the skull was no longer in articulation with the spinal column. The state of preservation of the bones, combined with the fact that they had been somewhat displaced, made it difficult to determine the original manner of deposition. It appears to have been a primary semiflexed burial, oriented north-south, with the head to the north.

Burial No. 3, the bones of which are crushed and disintegrated, was that of an old adult male. It appears to have been a primary fully flexed burial, oriented southeast-northwest, with the head to the southeast.

Many of the bones of the lower burials were badly disintegrated and jumbled. Burial No. 4, the central one, was that of a middle-aged adult male. It was a primary, semiflexed burial, oriented approximately southwest-northeast, with the head to the southwest, facing north. The skeleton was on its left side. Burial No. 4 had evidently been placed in the pit at a later date than burials 5 and 6, for the latter appear to have been pushed to either side of the pit in order to make room for it. A group of 4 circular copper beads (14PO14–116), 1 large and 3 small, were found resting on the right mandibular condyle, and 2 more (14PO14–118) were located beneath the left temporal. An additional pair of the same type of bead was found while screening fill from the area immediately about the skull. Both the right and left mastoid process of the skull were stained green from the copper. The beads had apparently been attached to the ears at the time of burial. A small disk shell bead (14PO14–117) was also found close to the skull. Fragmentary bits of copper and a tubular conch shell bead (14PO14–119) were found close to one wrist of the skeleton.

Burial No. 5, a semiflexed primary burial, was that of a middle-aged adult male. It was oriented approximately east-west, with the head to the west, facing to the north. Several of the long bones of this skeleton are unusually large. An ovate stone scraper (14PO14–131) was found directly over one of the scapulae.

Burial No. 6 was the badly disintegrated remains of a middle-aged adult female. The outline in the soil indicated that it was probably semiflexed, with the head to the west.

Two stone scrapers (14PO14–123 and 124) were found in the fill about the lower burials.

A group of 4 chert nodules and 1 piece of hematite (Feature 2) were found in the gravel beneath the mound fill, 11 feet north of Feature 1.

In addition to the burials of Feature 1, the fragmentary remains of an extended, supine, adult burial (Feature 3), burial No. 7, were found lying directly on the gravel deposit under the mound, and about 5 feet north and 5 feet west of Feature 1. The lower leg and foot bones were present and in articulation but crushed by the overlying rocks. A section of the right radius and ulna, and several phalanges indicated that the arm had been extended along side of the body, which was oriented northwest-southeast, with the head to the southeast. The remainder of the body bones were missing or fragmentary. The outline of a pit was evident in the reference block of the mound profile at the spot where the skull should have been; hence the skull may have originally been present. No associated artifacts were found.

Burial No. 7 appears to have been intrusive and to have no connection with the other burials in the mound. Individual extended burials, placed beneath piles of rocks, were customary among the Kansa, and it is quite possible that the nearby site, 14PO13, is a Kansa site; however, there was no certain evidence to indicate that the burial was intrusive.

ARTIFACTS

A total of 47 artifacts was recovered from the mound. No pottery was found. Thirty-five stone artifacts, mostly scrapers, cutters, and choppers, were recovered from the dirt between or below the rock-slab covering, and a few specimens were found in association with the burials.

Four chert projectile points (pl. 18)[2] and the base of a point were found in the mound fill. Specimen No. 4 is a small, delicately chipped, straight-based and straight-sided triangular point with two small side notches and one base notch, all of the same size. The tip of the point is missing. Specimen No. 31 is a medium-sized point with sides slightly convex in outline, is flat on one side, and has an expanded stem containing a small, shallow notch. Point No. 29 is double convex in cross section, apparently straight based, and evenly chipped. Half of the stem and the lower portion of the blade is missing. No. 5 is a rather small, evenly chipped point, convex sided and concave based in outline. No. 37 is the base of a straight-based projectile point. Table 1 gives data on the projectile points.

TABLE 1.—*Projectile point data*

Cat. No.	Length	Width	Thickness	Description [1]	Provenience
	Mm.	*Mm.*	*Mm.*		
14PO14-4	[2] 23	11	2	NBa2	Grass roots on mound.
14PO14-31	32	22	6	SCa2	Mound fill, 1.1 feet below surface.
14PO14-29	[2] 39	23	5	SCa2	Base of mound fill.
14PO14-5	25	17	3	NBb	Mound fill, 0.7 foot below surface.
14PO14-37		21			Mound fill.

[1] A descriptive codification of projectile points formulated by Strong, given as an aid for the comparison of 14PO14 points with projectile point data recorded elsewhere from the Plains area (Strong, 1935, p. 88).
[2] Estimated.

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[2] Artifacts are identified in plates 18, 19, 21, 23, and 24 by their specimen catalog numbers.

The point end of a chert blade (No. 38) was found in the mound fill (pl. 18). The fragment, 33 mm. long and 26 mm. wide, is double convex in cross section and is neatly chipped.

Two small end scrapers were found (pl. 18). Specimen No. 9, from the mound fill, is a snub-nosed scraper with an expanded bit, flat on both sides, and retouched on the end and part of one side. It is 25 mm. long, 16 mm. wide, and 6 mm. thick. Number 131, a small flat ovate scraper, is retouched on both sides and one end, and is 29 mm. long, 23 mm. wide, and 7 mm. thick. It was found directly over the scapula of a lower burial of Feature 1.

Thirteen of the 35 chipped stone artifacts are scrapers (pl. 19). They are made from irregularly shaped chert spalls, and show a minimum of modification. The ventral surface is a single cleavage plane. One or more of the edges are retouched. No. 32 is a high-backed, subelliptical scraper with a concave ventral surface. The entire dorsal surface is flaked, and one edge is retouched. No. 1, found on the surface, is a nearly circular scraper. Its dorsal surface is convex, and the ventral surface has a prominent medial ridge. No. 3, also from the mound surface, is an ovate, stemmed scraper, and is flat ventrally and convex but unmodified dorsally. It is retouched around the entire edge. Two scrapers were found associated with the lower burials in Feature 1, Nos. 123 and 124. No. 123 has a broad blade that is more or less oval and tapers toward one end. The ventral surface is moderately convex, the dorsal surface beveled, with the maximum thickness close to the left edge. The broad end and one side are retouched. No. 124 is a rather small subelliptical scraper, concave ventrally, beveled dorsally, with the maximum thickness close to the left edge. It is retouched on both ends and on one side. Table 2 follows.

TABLE 2.—*Measurements of scrapers*[1]

Cat. No.	Length	Width	Thickness
	Mm.	*Mm.*	*Mm.*
32	59	33	14
1	44	40	20
3	47	44	7
123	71	54	12
124	52	27	9
Range	34–76	24–55	7–29
Average	52.5	36.6	12.6

[1] Measurements are given for 5 of the scrapers illustrated (pl. 19), but the range and average are given for the total of 13 specimens.

Five specimens are a type of cutting or scraping tool (pl. 19). They are of the spall variety, medium sized, generally ovate in shape, and bifacially flaked without secondary retouching. The flaking is coarse. The cutting edge extends all the way around or on two sides and one end. The implements range from 69 to 80 mm. in length, 40 to 54 mm. in width, and 17 to 23 mm. in thickness. No. 48 is of chert, oval in outline, double convex in cross section, with a depression in the center of one side. It is edged on both ends and one side, and measures 68 mm. in length, 47 mm. in width, and 19 mm. in thickness. This was found in association with the upper burials of Feature 1; the others all came from the mound fill.

Five roughly modified cores show some evidence of use. Specimen No. 46 (pl. 19) is a large, coarsely flaked bladelike chopper, flaked on both ends and on one side. It is 102 mm. long, 76 mm. wide, and 25 mm. thick, and was found in association with the upper burials.

A rectangular piece of reddish quartzite, 117 mm. long, 100 mm. wide, and 68 mm. thick, was found in the mound fill (pl. 19). The rock is smooth and the corners well rounded. It might have served as a hammerstone or as a small anvil; however, there is no clear-cut evidence of battering.

A pendantlike object of catlinite (pl. 18) came from the mound fill. The specimen (No. 28) is subrectangular with one end having a small stem or projection 3 mm. long and 4 mm. wide. The object is 33 mm. long, 26 mm. wide, and 2 mm. thick.

The two pieces of worked shell recovered were associated with the lower burials of Feature 1. One is a disk shell bead (No. 117) 6 mm. in diameter, and the other a cylindrical conch shell bead (No. 119) 27 mm. long and 11 mm. in diameter (pl. 18). A notch has been worn into the same side of each end of the bead.

Feature 2 yielded a piece of worked hematite (No. 130). In outline it resembles half of a cross-sectioned elliptical object. The ventral and dorsal surfaces are flat, and the edges are rounded at the tapered end. The piece is 55 mm. long, 43 mm. wide, and 23 mm. thick.

Eight copper disk beads (pl. 18) were associated with the lower burials of Feature 1. The beads, made by rolling copper strips 5 to 7 mm. wide and 2 to 3 mm. thick, range from 9 to 12 mm. in diameter, with a hole 4 mm. wide. Metallographic examination of the beads showed them to be of native copper.

CONCLUSIONS

The cultural identity of the mound is, as is so often the case with burial mounds, difficult or impossible to definitely determine. There is however, some reason to believe that the mound belongs to the Woodland Complex. Two of the five points (Nos. 29 and 31), found well within the mound fill, resemble Woodland points attributable to the Valley Focus. The other three points do not resemble conventional Woodland types, however; one of these occurred at grass-root level and hence may be unassociated with the mound.

Burial mounds of earth and stone construction are numerous and widespread in Missouri, and are associated with the Woodland Pattern. The burials are sometimes in a pit dug into subsoil beneath the mound, on a stone platform with or without a stone covering, in stone chambers or vaults, or in cists (Chapman, 1948, pp. 110–125). A group of stone vault mounds, ascribed to the Hopewellian Complex, is situated at Kansas City, Mo., and stone vault mounds have also been found in Kansas, in the northern part of Doniphan County (Wedel, 1943, p. 159).

The Younkin Mound, a rock and earth mound with a stone-slab floor, located about 6 miles northwest of Junction City, Kans., has been excavated, and is ascribed to the Hopewellian Complex (Spaulding, 1949, p. 106). Its only resemblance to site 14PO14 consists of rock-covered burials and a highland location.

Stone-slab mounds at site 14EW18, 10 to 30 feet in diameter and 2 to 3 feet in height, have been found on the high bluffs near the mouth of Bluff Creek, Kanopolis Reservoir, Ellsworth County, Kans. (Kivett, 1947, p. 9). These mounds are similar in external appearance to the Sweat Bee mound; however, they are unexcavated and their cultural identity is unknown.

Burial cairns, excavated at site 14EW24, on the bluffs above the Smoky Hill River in Ellsworth County, are somewhat similar but considerably smaller than 14PO14. In one cairn, 12 feet in diameter, a flexed skeleton, crushed by the overlying rocks, was found in rectanguloid cist (Smith, 1949, p. 229).

Subsurface burial pits, covered by an extensive layer of rocks, have been found in Nebraska. An example of this is the Lindsey site (25CC29) in Cass County, 1½ miles west of the town of Weeping Water. Primary burials were found in five pits or cists, dug into the subsoil of the base of a rock-slab-covered area 30 feet in diameter. The site belongs to the Woodland Pattern (Kivet, Marvin F., personal communication. Data on file at Nebraska State Historical Society).

Turtle Mound, one of a series of mounds along the Missouri River bluff near the town of Rock Bluff, Nebr., proved upon excavation to be a 24-foot circular limestone slab-covered mound with one concentration of human bones close to the eastern border of the mound (Gilmore, 1932, pp. 167–169).

A rock-covered burial pit containing four individuals in an oval-shaped pit was found at site 25NC201, 5½ miles northwest of the town of Fullerton, Nance County, Nebr. This was on a high ridge overlooking Timber Creek. The few sherds found in the pit indicated that the burial was Woodland (Cumming, 1953, pp. 8 and 9).

A characteristic of the Woodland burial complex is the wide range of variation of the burial pattern. In Missouri both semiflexed and extended burials have been found within the same mound. Multiple, semiflexed, or flexed primary burials within mounds or pits in mounds, as at 14PO14, fall within the Woodland burial pattern.

Although the Kansa, no doubt, frequented the region in which site 14PO14 is located, it is doubtful that the mound burials are Kansa, with the possible exception of burial 7, which may be intrusive. While the Kansa often used bluff and hilltop locations for their burials, and usually covered the graves with rocks, they customarily buried their dead in individual graves and in an extended or semireclining position (Wedel, 1946, p. 27).

The nearest known habitation site to 14PO14 is site 14RY10, a nearby village site adjacent to the west end of the dam axis. It is improbable that the mound burials are associated with this village, for preliminary investigations indicate that 14RY10 belongs to the Table Rock Focus of the Nebraska Aspect, and so far as is known, the Nebraska Aspect burial pattern is that of secondary burials in ossuary pits.

It seems quite possible that the rock mounds and rock-covered pits containing multiple burials, and always placed on a highland location, found in northeastern Kansas and parts of Nebraska, may represent an attenuated form of the Woodland burial mound building complex of Missouri. There seems to be a reasonable probability that site 14PO14 is a manifestation of this complex.

THE SPILLWAY SITE (14PO12)

FIELDWORK

After completing work at the Sweat Bee Mound, 2 sites about 500 yards to the south, in the spillway area of the dam, were sampled. Site 14PO12 was the least promising of the two, and little time was allotted to it.

The Spillway site (14PO12) is located in Pottawatomie County, Kans., in the SW¼ sec. 18, R8E T9S. The site is on the northeast side of the spillway of the Tuttle Creek Dam (pl. 20, *a*). Spillway excavation had, at the time of the investigation, destroyed over half of the site. The occupational area is situated on a relatively flat-topped ridge about 200 feet above the Big Blue River, and commands an excellent view of the river valley and of the hills bordering the tableland to the east. The soil about the area is rocky and sparsely covered with grass and sumac. The underlying bedrock of limestone and shale is covered with a gravel deposit containing many chert inclusions. Over this is a thin covering of darker soil. Cultural materials are spread over an area of about 1 acre and occur from the surface down to a depth of 0.6 to 0.8 foot. In the short time available, surface examination and the digging of one 3- by 4-foot test pit, 1 foot deep, were all that could be accomplished. From the surface, which was littered with chert chips, and from the test pit, a few sherds and chipped-stone artifacts were obtained.

ARTIFACTS

A total of 25 artifacts were obtained. The pottery sample consists of 12 small body sherds, all from the surface. These sherds are tempered with finely pulverized shell, their outer and inner surfaces are smooth but have a chalky feel, and the cores consist of a dark-gray paste. Colors range from light brown to buff, with the exception of one sherd which has an orange sliplike finish both inside and out. The ware is relatively thin, sherd thicknesses varying between 4 and 5 mm. Hardness ranges from 4 to 5. On all of the sherds the surface finish is plain, and three have narrow, sharply incised lines across them. The sample is too limited to permit making a cultural identification; however, the sherds are suggestive of Glen Elder Focus material.

The chipped-stone sample consists of 4 end scrapers, 7 side scrapers, 1 utilized core, and 1 blade or knife. All of the specimens are of gray or banded chert. Of the end scrapers (pl. 21), all found on the surface, 3 are medium sized and 1 is small. They are roughly rectangular, with the snub end rounded on two of the specimens. The under surface is unmodified and slightly concave; the upper surface fairly flat. Two of the scrapers are retouched on the front end and two retouched along the front and right side. The end scrapers range from 26 to 38 mm. in length, 21 to 31 mm. in width, and 5 to 11 mm. in thickness.

The side scrapers (pl. 21) are of the spall variety. The chert chips from which they have been made are unmodified on one surface and retouched along one edge. A patinated portion, from the nodule from which the chips have been struck off, is present in three of the scrapers. The shapes are irregular, but tend to be somewhat rectangular. One specimen (14PO12–5 (pl. 21)) is roughly semicircular and retouched along the working edge. A semicircular notch, 19 mm. wide, along one side, indicates that the scraper may also have been used as a bow-shave. Side scrapers range from 45 to 71 mm. in length, 29 to 47 mm. in width, and 10 to 15 mm. in thickness.

One flat-bottomed, high keeled core shows evidence of use but no retouching on its work edges.

The one blade or knife (14PO12–2) has a curved cutting edge and is coarsely flaked with the upper edge thickened and smoothed. It is 55 mm. long, 30 mm. wide, and 9 mm. thick.

CONCLUSIONS

The artifact sample is too limited and nondiagnostic to make a cultural identification of the site. The sherds are suggestive of, but certainly not identical to, material from the Glen Elder site (14ML1) in Mitchell County, and the White Rock site (14JW1) in Jewell County, Kans. It has been suggested that these latter two sites be assigned to the Glen Elder Focus of the White Rock Aspect (Kiehl, 1953, p. 4).

Sites 14PO12 and 14PO13 are adjacent to each other and may be 1 site rather than 2. Scrapers are the most numerous of the stone artifacts at both of the sites and are similar in style. On the basis of the pottery recovered, sites 14PO12 and 14PO13 are different sites; this may, however, be a reflection of unavoidable but admittedly inadequate sampling.

THE REANY SITE (14PO13)

FIELDWORK

The Reany site (14PO13) is located on the southwest side of the spillway, about 800 feet west of site 14PO12 (pl. 22, *a*). It is in the SW¼SE¼ sec. 18 and NW¼NE¼ sec. 19, R8E T9S. The site originally covered an area of about 1½ acres; however, at the time of investigation the north third of the site had been destroyed by construction operations. A day and a half was spent testing the remaining portion of the site. During this time the surface was intensively examined and nine test pits were dug in the area of the greatest surface artifact concentrations. Here, as at 14PO12, the surface was covered with chert chips, but sherds and chipped stone implements were more numerous than at the former site.

ARTIFACTS

A total of 244 artifacts was recovered. Potsherds were found on the surface and in the test pits, at depths of 0.1 to 0.6 foot. The pottery sample totals 177 body sherds (pl. 23) and 1 rim sherd. The ware is tempered with rather finely pulverized shell. The exterior surface texture is smooth, the interior slick or imperfectly polished, and the core consists of a dark gray to black paste, compact, and often laminated. The exterior surface, ranging from light brown to buff in color, is plain, with seven sherds having small punctate impressions made with a sharp pointed instrument held at an acute angle to the pot. Body sherd thickness ranges from 4 to 7 mm. and averages 5.8 mm. Hardness ranges from 4 to 5 in Mohs' scale. The one rim sherd (14PO13–86) (pl. 23), a surface find, is straight. Shallow diagonal notches, about 2 mm. in width, encircle the top of the lip. The rim is 7 mm. thick and 3.6 mm. high, and once had either a lug or strap handle riveted to it. The slight amount of curvature of the rim suggests that it is from a wide-mouthed pot. One small strap handle (pl. 23) was found in test pit No. 4.

All of the 65 stone artifacts found were of chipped stone. These include projectile points, scrapers, blades, and one chopper. Of the 6 projectile points found (pl. 23), all from the test pits, 2 are complete, and 4 consist of the shoulder and about half of the blade. The points, made from chert, are small, triangular, straight sided, and delicately chipped. Five of them have a straight base and one a slightly concave base. Specimen 14PO13–61 (pl. 23) resembles a point but is concave near the tip, and may be a small scraper or knife. The projectile points range in length from 19 mm. to an estimated 30 mm., in width from 10 mm. to 15 mm., and in thickness from 2 mm. to 2.5 mm. Table 3 gives projectile point measurements.

TABLE 3.—*Measurements of projectile points*

Cat. No.	Length	Width	Thickness	Description[1]
	Mm.	*Mm.*	*Mm.*	
49	19	10	2.5	NBa
60	20	13	2.5	NBa
50		12	2.5	NBa
72		15	2.0	NBa
73			2.0	NBa
80		10	2.5	NBb

[1] See Strong, 1935.

The most abundant artifact found at the site is a chipped scraper of gray or banded chert. Of the 58 recovered, 21 came from the test pits. The scrapers are of the spall variety and as a rule show a minimum of modification. Most of the scrapers are a variety of end scraper, and for convenience of description they have been lumped into three groups. Group 1 end scrapers (pl. 24), 27 in number, are subrectangular in outline and triangular in cross section. They are characterized by having a dorsal ridge off center, with a steep bevel on one side, a base that is either flat or slightly concave, and a bit that is abrupt and retouched. Either one or both of the sides may be retouched. Group 2 scrapers (pl. 24), 11 in number, are shorter and wider and more irregularly shaped than group 1 scrapers, and are characterized by a flat upper surface, unmodified or with the dorsal ridge removed; otherwise, they are similar to those of group 1. Two of the scrapers are small, and resemble the familiar "thumb-nail" scraper. Group 3 scrapers (pl. 24) are small, ovate, flat to slightly concave ventrally, and have a low dorsal ridge that is approximately medial. Two specimens are retouched along the end and one side, and one on the end and both sides.

Five specimens are classed as miscellaneous end scrapers (pl. 24). No. 37 is an elongate, coarsely flaked, keeled scraper. The bottom surface is slightly concave, and the upper surface has a low bevel at the bit end. The maximum width is at the bit end. No. 34 is a subrectangular end scraper, flat on the ventral surface, and concave on the dorsal surface. The working edge, which is abruptly beveled, is on the end and one side, with the corner rounded. Specimen 11 is a jagged piece of chert, roughly triangular, with the apex rounded and retouched. Maximum thickness is at the bit end, and the bevel is steep. No. 56 is a flat scraper with a right-angled corner and the remainder rounded. The ventral surface is flat, and the working edge on the dorsal surface is retouched on all but a small portion of one side. The scraper is made of chert.

Twelve specimens, four of which are incomplete, have been classed as side scrapers (pl. 24). They consist of irregularly shaped chert flakes, one side of which is flat and unmodified and one edge retouched. Table 4 gives measurements of scrapers.

TABLE 4.—*Measurements of scrapers*

	Number	Length	Width	Thickness
		Mm.	*Mm.*	*Mm.*
End scrapers, group 1	27			
Range		29–84	19–44	6–25
Mean		49.7	26.8	11.5
End scrapers, group 2	11			
Range		25–63	18–46	4–15
Mean		44.5	32.1	9.2
End scrapers, group 3	3			
Range		26–33	20–27	6–7
Mean		29.6	24.3	6.3
End scrapers, miscellaneous:				
Cat. No. 37		64	35	18
Cat. No. 34		85	42	19
Cat. No. 11		65	72	31
Cat. No. 56		37	30	12
Side scrapers (complete)	8			
Range		41–62	18–35	7–11
Mean		49.3	25.3	9.1

Two blades or knives were found. Specimen 5 (pl. 24), found on the surface, is the end of a chert blade. It is convex on both sides, with a medial ridge on one surface. The tip is slightly rounded. The piece measures 49 mm. in length, 31 mm. in width, and 10 mm. in thickness. No. 74 (pl. 24) is an elliptical-shaped flat blade or knife, found in test pit 3. The tip of one end is broken off, the other tip is thickened and retouched like an end scraper bit. The edges of the blade are retouched on both surfaces. The blade is 105 mm. long, 48 mm. wide, and 7 mm. thick.

One oval-shaped chopper (pl. 24) coarsely flaked, and made of quartzite, was found on the surface. It measures 90 mm. in length, 61 mm. in width, and 22 mm. in thickness.

Four small pieces of metal were found. One small piece of thin sheet copper came from the surface and one from test 3. Test 2 yielded a small, thin fragment of iron, and test 1 a copper jingle or cone (pl. 23) which measures 18 mm. in height, 13 mm. in width at the base, and 1 mm. in thickness.

CONCLUSIONS

The artifact sample obtained at 14PO13 is too small to permit the making of a positive cultural identification of the site, nevertheless the range of probabilities can be limited. The copper jingle and fragments of copper and iron found in the test pits indicate a protohistoric or early historic date, and we know that the site is well within the territory of the historic Kansa, and do not know of other tribes in this immediate area at that time. Unfortunately, little is known archeologically of the Kansa. Ethnological data indicate that there were many similarities between the cultures of the Kansa and of the Osage, and it is interesting to note that the shell-tempered pottery and triangular points found at 14PO13 fall within the range of that described for the Osage (Chapman, 1946, pp. 22–23). It seems quite probable that the Reany site is a protohistoric or early historic Kansa site. The occurrence of chert all along the ridge, and the abundance of chert chips covering the surface of the site indicate that stone-chipping was a major occupation at this spot.

SITE 14RY10

Site 14RY10 is a village site located 2,500 feet south of the southwest end of the Tuttle Creek Dam, in an area of construction activity (pl. 20, *b*). The site is in the SW¼ SE¼ sec. 24 T9S R7E. It is situated on a low terrace in the bottom lands, several hundred feet west of the right bank of the Big Blue River. To the south a small creek, the bed of which is 30 feet below the terrace surface, limits the occupational area. The relatively flat surface of the terrace has an elevation of 1,040 feet, 20 feet above stream level. The whole area, covered with a clayey loam topsoil, has been under cultivation for almost 100 years.

Surface indications consisted of a sparse scattering of occupational refuse. Dr. Linwood Hodgdon had previously made an intensive surface survey of the site and had marked the areas of major refuse concentrations. A north-south base line was established immediately east of one of these areas and a grid system, based on 10-foot squares, was laid out.

The first test, excavation unit 1, was dug 150 feet east of the base line. Here a 30-foot-long, 4-foot-wide trench was dug to subsoil, with a deeper pit at one end to check for possible stratification. The topsoil covering in this section of the site was 0.6 foot in depth and underlain by a sterile yellow clay subsoil. The cultural materials all occurred within the first 0.3 foot from the surface. No subsurface features were found.

Work next proceeded on excavation unit 2, a 70-foot-long, 4-foot-wide trench, dug along the west side of the base line. The excavation was extended by digging a 100-foot-long and 3-foot-wide east-west lateral at line N310, a 35-foot lateral at N330, and 15 feet of trench along a third lateral at line N360. All trenches were dug to sterile subsoil with intermittent pits dug deeper. No subsurface features were encountered and artifacts were sparse. A large concentration of wattle was found just west and north of the N310 lateral trench indicating a possible house location. Lack of funds prevented further work by the Missouri Basin Project unit, but volunteer units continued working and uncovered the remains of one dwelling. Observation of the artifacts obtained indicates that the site may be assigned to the Table Rock Focus of the Nebraska Aspect.

SUMMARY

During the field season of 1953, a Smithsonian Institution party excavated 1 site and tested 3 others in the construction area of the Tuttle Creek Dam, northeastern Kansas. None of the sites may be positively identified with any specific cultural group but indications point to some tentative identifications. The Sweat Bee Mound (14PO14) was excavated and it is suggested that this is a Woodland burial mound. Seven burials (one intrusive) were found here in a stone-slab mound. The Spillway site (14PO12) was briefly tested and few artifacts were recovered. Ceramically it is suggestive of the Glen Elder Focus. The lithic materials indicate that it may be a continuation of site 14PO13. The Reany site (14PO13) was briefly tested and it is suggested, on the basis of the pottery and the metal artifacts, that this might be a protohistoric or early historic Kansa campsite. Site 14RY10 was tested briefly and such indications as could be determined here suggest that this may be a village site of the Table Rock Focus of the Nebraska Aspect.

It is felt that the potentialities of sites 14PO12, 13, and 14 have been exploited to the limits of practicability under the circumstances. These sites, at best, could yield but little additional information. Site 14RY10, which, for the most part, has been investigated by volunteer groups under Linwood Hodgdon and under John L. Champe, merits further work. The urgent need in this area now in order to begin to clarify the picture of the prehistory of this area is for excavation of a number of additional sites here. These additional sites have been suggested by Solecki (Solecki, 1953 a) and are here heartily endorsed.

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APPENDIX

SKELETAL REMAINS OF THE SWEAT BEE MOUND SITE (14PO14)

INTRODUCTION

The skeletal remains to be described consist of the remains of six adult burials, all from Feature 1, in a slab-rock mound. Feature 1 consists of an unlined pit, containing the lower burials, Nos. 4–6 (pl. 16, *a*), dug into the base of the mound, and a circle of rock slabs placed on edge just above and around the pit, containing the three upper burials, Nos. 1–3 (pl. 15, *b*). Apparently the pit had been reopened from time to time and burials added. In the lower group of burials the manner in which the bones were mixed indicated that the third burial had been added at a later date than the other two and that the bones of the first two had been pushed, each to one side, to make room for it. Many of the bones were poorly preserved. The same procedure seems to have been followed with the upper burials. Many of the bones of these were crushed by overlying rocks. Because of the fragmentary nature of many of the bones, and their displacement caused by forcing a third burial into each of the two groups, it was possible to definitely associate the skull and body bones of one individual only, burial No. 1, cat. No. 49. With this exception, the burial numbers apply only to the crania.

METHODS

The crania were sexed without further supporting evidence except for specimen No. 49. Aging is based on endocranial closure and tooth-wear. Observations of the long bones supported the conclusion that the total series consisted of 6 individuals, 4 male and 2 female. Measurements are taken in accordance with Martin (1928) unless otherwise indicated.

CRANIAL DATA

Condition of specimens.—Specimen No. 47 (burial 3) consists of large portions of the occipital, right and left parietal, and frontal bones. The petromastoid and the tympanic portion of the left temporal is also present. The articulations between the parietal, frontal, and temporal bones are tenuous.

Cranium No. 49 (burial 1) lacks the sphenoid, a portion of the base, and the processes of the maxillae. The ascending portion of the right mandibular ramus is missing.

Specimen No. 50 (burial 2) consists of the cranial vault minus most of the right side and face, and all of the base. A portion of the left zygomatic and part of the maxillae are present.

Specimen No. 65 (burial 5) consists of the left parietal and most of the right parietal bone, the squamus portion of the right temporal, the left half of the frontal and most of the left half of the maxilla and mandible.

Cranium No. 66 (burial 4) consists of the cranial vault with the temporal bones, but minus the sphenoid, face, and base. The left zygomatic, the glabellar portion of the frontal, together with the upper part of the nasal bones, and a portion of the body and alveolar border of the maxillae are also present. The mandible is complete except for the right ascending ramus. A severe warping of the cranial bones prevented restoration of the skull.

Specimen No. 73 (burial 6) consists of fragments of the left half of the mandible.

Measurements and indices.—Archeological considerations suggest that site 14PO14 belongs to the Woodland Complex. There is a possibility that it represents an attenuated form of the mound building complex to the east. In order to see what inferences may be gained from the physical types involved, a skeletal series from the Kansas City vault mounds, Hopewellian Woodland, located about 129 miles east of the Sweat Bee Mound site, has been chosen for comparative purposes. Stewart (in Wedel, 1943, pp. 245–265) has demonstrated the similarity of the Kansas City Mound series to that of an Ohio Hopewell series from the Turner site.

The measurements and indices of the 14PO14 crania and a comparison of these with the series from the Kansas City vault mounds (Stewart, in Wedel, 1943, pp. 250–254, 268) are given in table 5.

Only 2 skulls from 14PO14, 1 male, No. 50 (pl. 16, *b*), and 1 female, No. 49 (pl. 17), are complete enough to yield comparative metrical data. Neither these nor any of the others, so far as could be observed, were artificially deformed. The skulls are dolichocranic, with the cranial indices falling close to those given for the Kansas City series.

Head height is noticeably lower in the 14PO14 group than it is in the Kansas City series. The basion-bregma height in both crania No. 50 and No. 49 was estimated and hence it and the indices derived therefrom are only approximate. The male skull is chamaekran or low according to the length-height index and the auricular height index, and low as judged by the mean height index. It is akrokran according to the breadth-height index. The female skull is in the medium height range of the various height indices. Head height of both the male and female crania of the Kansas City series is high.

General head size, as indicated by the cranial module, is medium in the male and comparable to the Kansas City Hopewell. None of the 14PO14 crania is thick walled.

The unusually small minimum frontal diameter of the Kansas City skulls is not present; 92 mm. as against 96 mm. for the 14PO14 skulls.

Observations of facial structure had to be made, for the most part, from one female skull. The upper face height falls within the range of the Kansas City female series, but the face width is considerably less, resulting in a leptene face rather than the mesene one of the Kansas City series.

Orbital shape is similar to that of the Kansas City series, hypsiconch, but a marked difference is indicated by the nasal index which is hyperchamaerrhine in the 14PO14 skull and messorrhine in the Kanas City series.

The upper alveolar arch is greater in length than width (maxillo-alveolar index 93.22) in female skull No. 49, while in the Kansas City series the reverse is true (maxillo-alveolar index 117.5).

From this comparison of the two series it is apparent that although there are similarities, there are also distinct differences.

Morphological observations.—Observations of the individual crania are given in table 6. The following summary indicates the general characteristics of the 14PO14 series.

Skull vault and base:

- Ovoid head form
- Divided type brow ridges of small to medium size
- Small to medium-sized glabella
- Low frontal height and small frontal breadth
- Medium frontal slope
- Small postorbital constriction
- Small frontal bosses
- Absent to small median crest
- Slight sagittal elevation
- Lack of postcoronal depression
- Medium parietal bosses
- Flat temporal region
- Medium to large mastoids
- Medium to large supramastoid crest
- Medium to pronounced occipital curve
- Slight to medium amount of lambdoid flattening
- Lack of occipital torus
- Small inion
- Lack of platybasia
- Shallow to deep glenoid fossa depth
- Small postglenoid processes
- Thin tympanic plate
- Elliptical-shaped auditory meatuses

Facial skeleton:
- Square-shaped orbits of slight inclination
- Absent to shallow suborbital fossae
- Small to large-sized malars with slight lateral projection
- Slight nasion depression
- Medium nasal root height and breadth
- Medium to sharp nasal sills
- Slight amount of alveolar prognathism
- Medium palate vault height
- Medium to large mandible
- Bilateral chin form with slight chin projection
- Medium-sized genial spines
- Lack of mandibular torus
- Neutral to slightly everted gonians

Dentition.—The general condition of the teeth is good even though tooth wear varies from pronounced to very pronounced. The crowns of the teeth are worn off markedly and in some cases the roots are exposed. Of a total of 74 teeth, some in place and others not, 2 cases of apical caries occur. Abscesses and other pathological conditions are not apparent, and the teeth were retained into late middle age and old age in spite of excessive wear. Pronounced tooth wear with a retention of teeth late in life, and a minimal number of abscesses and caries is characteristic of skeletal material from the Turner Mounds (Ohio Hopewellian) and from the Kansas City Mound series (Hopewellian) (Stewart, in Wedel, 1943, p. 249).

Pathology and anomalies.—No pathological conditions in the crania are apparent. No ear exostoses are present. The tympanic plate is perforated in specimens No. 66 and No. 50, and unperforated in two unarticulated left temporals.

PHYSICAL TYPE

The identification of the physical type of as small and fragmentary a series as that of the 14PO14 crania must necessarily be considered tentative and suggestive. With little supporting metrical data available, reliance is basically on morphological observations.

The 14PO14 crania appear to fit morphologically with the eastern Early Woodland long-headed group, characterized by the Otamid variety of Neumann (Neumann, 1950), a group found from Nebraska to the east coast, and represented by such peoples as those of the Woodland Black Sand Focus in Illinois, the Coastal Focus of the Atlantic coast, and the Karankawa of the Texas coast (Neumann, 1950, p. 16).

The 14PO14 crania are a long-headed group. The cranial index of skull No. 50 is 70.47. Cranium No. 66, although not complete enough for accurate measurement, is obviously long headed. The mean cranial index of the Otamid male series is 70.66 (Neumann, 1950, p. 20).

It was possible to compare the morphological traits of the 14PO14 series with 39 of the 46 morphological traits listed by Neumann for the Karankawa series of the Otamid variety (Neumann, 1950, p. 21). Observations of the styloid processes, nasal height and breadth, nasal profile, anterior nasal spine, total prognathism, and palate shape could not be taken on the 14PO14 series. The two series differed noticeably in only four traits. Glabella and brow ridge size are considerably smaller in the 14PO14 series, the lateral projection of the zygomatics is less, and nasion depression is less in the 14PO14 series than in the Otamid series. The tendency to a small to moderate development of glabella and of the brow ridges is characteristic of Nebraska Woodland. In a series of 16 male Nebraska Woodland crania, the modal distribution of glabella size is small (10), medium (3), and large (2), and of brow ridge size small (6), medium (5), large (3), and trace (1) (Neumann, unpublished data). The 14PO14 crania show a greater morphological resemblance to the Nebraska Woodland series than to the Karankawa Otamids.

POSTCRANIAL DATA

The poor state of preservation of the skeletal material prevented the recovery of many of the body bones. Most of the long bones recovered lack one or more of the articular ends. Burial 1, cat. No. 49, is the only one in which the paired bones and the crania were definitely associated.

No pathological conditions were apparent in any of the skeletal bones.

Bones measured or observed consist of the following: 9 femora (5 male, 4 female), 6 tibiae (3 male, 3 female), 7 humeri (3 male, 4 female), 4 radii (2 male, 1 female, 1 sex ?), 3 ulnae (2 male, 1 female), and 4 fibulae (1 male, 1 female, 2 sex ?). Measurements and observations of the individual skeletal bones are given in table 7.

Of the femora, two males show a pronounced development of the pilaster, as indicated by the middle shaft index. Pilaster development in the 14PO14 female is greater than that given for the Kansas City females series, and close to that of the Turner Mound series. The subtrochanteric region is less flat than in the Kansas City series. Of nine femora, the third trochanter was pronounced in one male, submedium in another, and medium in both the left and right femora of one female. In the Turner Mound series the third trochanter occurred in some form in all of the males and 4 of 6 females (Hooton, 1922, p. 128).

In the 14PO14 series the shape of the shafts of the tibiae is predominantly the ordinary prismatic.

Of 6 humeri, 2 female pairs had large sepatal apertures, 1 male a medium-sized aperture, and 1 male no sepatal apertures.

Estimates of stature are dubious since they are based on individual long bones and very few of these. The estimates are based on Pearson's formulae (Hooton, 1947, pp. 728–729). Among the male burials there appeared to be one unusually large individual represented. Femur No. 97, with a maximum length of 515 mm., was considerably larger than the rest of the femora. The stature estimate based on this femur is 180.5 cm. (5 feet 11 inches). An unusually long left radius, 290 mm. maximum length, which probably belongs with femur No. 97, gives a stature estimate of 180.7 cm. (5 feet 11 inches). The other male long bones, if measurable, would yield shorter stature estimates. The average stature for the Kansas City male series is 160 cm. (Stewart, in Wedel, 1943, p. 259). The stature of female No. 49, based on the left humerus, is 153.5 cm. Using Manourier's tables (Hrdlička, 1947, p. 182) the stature is 155.2 cm. (61.1 inches). The stature range for the Kansas City vault mound female series is 156 to 157 cm. (Stewart, in Wedel, 1943, p. 259), and for the Turner female series 157 cm. (Hooton, 1922, p. 126).

SUMMARY AND CONCLUSIONS

The comparison of the Sweat Bee slab-rock mound crania with that of the Kansas City vault mounds has shown that although there are similarities, there are also distinct differences between the crania of the two groups. Excessive tooth wear accompanied by sound teeth relatively free of caries and retained late in life is common to the 14PO14, Kansas City vault mound, and Turner Mound groups. On the basis of the available data, it is suggested that the 14PO14 crania fit in morphologically with the early Woodland Otamids. The Otamid variety has been found, among other places, in the stone vault graves that occur along the Mississippi, Missouri, and Kansas Rivers, and is encountered in the Hopewell mounds of the Illinois valley (Neumann, 1950, p. 121).

TABLE 5.—*Cranial measurements and indices of 14PO14 series with comparative measurements of Kansas City Mound series (Hopewellian).*

	Cranial measurements and indices of indicated burial No., cat. No., and sex				Comparative measurements of Kansas City Mound series [1]	
	B1, 49, female	B2, 50, male	B5, 65, male	B4, 66, male	Male	Female
	Mm.	*Mm.*	*Mm.*	*Mm.*	*Mm.*	*Mm.*
Maximum length	173	193			189 (5)	178 (4)
Maximum breadth	128	136			137 (5)	134 (3)
Basion-bregma hgt	*125	130+			142 (2)	139 (3)
Auricular hgt	111	106+		110+	118 (6)	115 (6)
Thickness lt. parietal	4.0	4.0	5.0	5.0		
Minimum frontal diameter [2]	89	96		*97	92 (9)	85 (6)
Ophryonic horizontal circum	483	510				
Frontal cord	105	111			114 (10)	109 (8)
Sagittal (nasion-opisthion) arc	352	376				
Frontal (nasion-bregma) arc	114	122				
Parietal (bregma-lambda) arc	122	129		120		
Occipital (lambda-opisthion) arc	116	125		112		
Transverse arc [3]	276					
Gnathion-nasion hgt. [4]						
Upper alveolar pt.-nasion hgt	68				72 (2)	70 (2)
Bizygomatic maximum	*123	*136			140 (2)	129 (2)
Orbital height, rt	37					
Orbital height, lt	34				34 M (3)	35 M (1)
Orbital breadth from dacryon, rt	39					
Orbital breadth from dacryon, lt	40	*40			38 M (3)	38 M (2)
Nasal height	51				49 (3)	50 (3)
Nasal breadth	30				26 (3)	25 (3)
Maxillo-alveolar length	59				53 (1)	55 (2)
Maxillo-alveolar width	55					64 (2)
Height of symphysis (mandible)	34			34		
Total mandibular length [5]	106			116		
Height of body	28			30		
Thickness of body [6]	14		14	14		
Bigonial width	91					
Height of ramus, lt	58			58		
Max. width, ascending ramus, lt.[7]	40		49	44		
Min. width, ascending ramus, lt	31		39	36		
Mandibular angle	131° lt.		112° lt.	120°		
Cranial index	73.99	70.47			72.4 (5)	75.4 (3)
Height-length index	*72.25	67.36+				
Height-breadth index	*97.66	*101.56				
Mean-height index	83.05	79.03+			88.0 (2)	90.1 (3)
Auricular height-length index	62.14	*55.70				
Cranial module	*142	153			154 (2)	147 (2)
Frontal index [7]	84.76	86.59			80.5 (9)	77.6 (6)
Fronto-parietal index	79.53	71.11				
Cranio-facial index	*104.07					
Zygo-frontal index	*66.96					
Fronto-gonial index	102.25					
Zygo-gonial index	73.98					
Facial index						
Upper facial index	55.28				52.1 (1)	53.9 (1)
Orbital index, mean	89.74				89.6 (3)	89.7 (1)
Nasal index	58.82				53.5 (3)	50.3 (3)
Maxillo-alveolar index	93.22					117.5 (2)

*Estimated.

+Approximated.

[1] Stewart, in Wedel, 1943, p. 268. Figures in parentheses equal number of individuals represented.

[2] Measured at 3 points 1 cm. above the temporaparietal suture and averaged.

[3] Measurement taken in accordance with Morant (1923), measurement Q [1].

[4] No allowance made for tooth wear.

[5] Single measurement taken with goniometer.

[6] Measurement taken in accordance with Hrdlička (1947).

[7] Measurement taken across top of condyles.

M = Mean.

TABLE 6.—*14PO14 series: morphological observations*

	Morphological observations of indicated cat. No., specimen, age, sex					
	50 B2, calva, 56–76 years, male	47 B3, calva, 56–76 years, male	65 B5, calva, 36–55 years, male	66 B4, mandible calvaria, 36–55 years, male (?)	49 B1, mandible calvaria, 56–76 years, female	73 B6, frag. rt. maxilla lt. ½ mandible 36–55 years, female
Muscularity	Pronounced	Medium	(1)	Medium	Medium	
Weight	Light	Light	Light	Light	Light	
Form	Ovoid	Ovoid ?	Ovoid	Ovoid	Ovoid	
Deformation	None	None	None	None	None	
Frontal region:						
Brow ridges, type	Divided		Divided	Divided	Divided	
Brow ridges, size	Small	Small	Medium	Trace	Small	
Glabella	do		Small	Small	do	
Height	Low			Low	Low	
Breadth	Small				Small	
Slope	Medium +			Medium	Medium	
Postorbital constriction	Small				Small	
Bosses	do		Small	Small	do	
Median crest	do		None	None	do	
Metopism	None		do		None	
Parietal region:						
Sagittal elevation	Slight	Absent	Slight	Slight	Slight	
Postcoronal depression	Absent	do	Absent	Absent	Absent	
Bosses	Medium	Medium	Large	Medium	Medium	
Foramina	None	Small	None	None	None	
Temporal region:						
Fullness	Flat		Flat	Slight	Flat	
Mastoids	Large	Large		Medium	Small	
Supramastoid crest	do			do	do	
Sphenoid depression	Small			Small	do	
Occipital region:						
Occipital curve	Pronounced	Pronounced		Medium	Pronounced	
Lambdoid flattening	Medium	Slight		Absent	Medium	
Torus	Absent	Absent		do	Absent	
Shape of torus						
Inion	Small	Small		Small	Small	
Sutures, wormian bones, pterion:						
Serration:						
Coronal	Submedium		Submedium	Submedium	Submedium	
Sagittal	(?)		do	do	Medium	
Lambdoid	Submedium	Medium		do	do	
External occlusion:						
Coronal	Complete	Complete	Complete	Complete	Complete	
Sagittal	do	do	do	do	do	

Lambdoid	do	do		do	do
Spheno-parietal	do				
Parieto-mastoid	do				Complete
Wormian bones:					
Lambdoid	None	None		None	None
Coronal	do	do		do	do
Sagittal	do	do	None	do	do
Temporo-occipital	do				do
Pterion form:					
Right				H (narrow)	
Left	H (narrow)				
Basilar region:					
Elevation of condyles					
Elevation of basion					
Petrous depression					
Platybasia	None				None
Median occipital fossa	do			None	do
Glenoid fossa depth	Deep	Medium, lt	Deep	Shallow	Medium
Postglenoid process	Small	Small	Small	Small	Small
Tympanic plate	Thin	Thin		Thin	Thin
Auditory meatus	Ellipse	Ellipse		Ellipse	Ellipse
Auditory exostoses	None	Lt. none		None	None
Styloids					
Lacerate foramina					
Pharyngeal tubercule					Small
Pharyngeal fossa					Absent
External pterygoid plate	Medium				
Internal pterygoid plate					
Pterygo-spinous foramen—rt					
Pterygo-spinous foramen—lt	Absent				
Perforated tympanic plate	Lt. present	Lt. none		Present	Lt. none, rt. missing
Orbital region:					
Orbital shape	Square		Square	Square	Square
Orbital inclination	Slight		Slight	Slight	Slight
Malar region:					
Size of malars	Medium		Large lt	Small	Small
Lateral projection	Slight			Slight	Medium
Anterior projection					Slight
Marginal process					
Suborbital fossa			None		Shallow
Zygomatic process				Thin	Thin
Nasal region:					
Nasion depression	Slight		Absent	Slight	Slight
Nasal root, height	Medium		Medium	Medium	Low
Nasal root, breadth	do		do	do	Narrow
Nasal bridge, height	do				Low
Nasal bridge, breadth	do				Medium
Nasal profile	Concave-convex				
Nasal sills			Sharp	Medium	Sharp
Subnasal grooves			Absent	Absent	Absent
Nasal spine			Medium		

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[1] Observations could not be made.

Table 6.—*14PO14 series: morphological observations*—Continued

	Morphological observations of indicated cat. No., specimen, age, sex					
	50 B2, calva, 56–76 years, male	47 B3, calva, 56–76 years, male	65 B5, calva, 36–55 years, male	66 B4, mandible calvaria, 36–55 years, male (?)	49 B1, mandible calvaria, 56–76 years, female	73 B6, frag. rt. maxilla lt. ½ mandible 36–55 years, female
Prognathism:						
Midfacial prognathism					Slight	
Alveolar prognathism			Slight	Slight	do	None.
Total prognathism					do	
Palatal region:						
Palate shape					U-shaped	
Palate vault height			Medium +	Medium	High	High.
Torus					Absent	
Torus form						
Transverse suture						
Posterior nasal spine						
Mandible:						
Mandible size			Large	Medium	Small	Medium.
Chin form				Bilateral	Median	
Chin projection				Slight	Slight	
Genial spines				Medium	do	
Torus			Absent	Absent	Absent	
Eversion of gonions			Slight, lt	Neutral	Slight	Inverted.
Profile of angle			Obtuse, lt	Obtuse	Obtuse	Obtuse.
Mylo hyoid ridge			Medium, lt	Slight	Slight	
Position of mental foramina			M1, lt	P1	P2–M1	
Dentition:						
Eruption			Complete, lt	Complete	Complete	Complete.
Antimorten tooth loss			None	None	None	None.
Number teeth caries	1		do	None	1	None.
Number abscesses			do	do	None	None.
Molar cusps						
Attrition	Very pronounced		Pronounced	Pronounced	Pronounced	Medium +.
Bite						
Shovel-shaped incisors					Pronounced	Slight.
Peg teeth						
Misplaced teeth						None.
Retained deciduous teeth						None.
Crowding			None	None	Slight	None.
General quality	Very poor		Good	Good	Good	Good.

TABLE 7—*14P014 series: Postcranial measurements and observations*[1]

FEMUR

	Postcranial measurements and observations of indicated cat. No., sex, and side								
	97, M, lt.	99, M, rt.	98, F, rt. ┌	┐[1] 82, F, lt.	55, M, rt.	56, M, lt.	57, M, lt.	49/22, F, lt. ┌	┐[1] 49/21, F, rt.
Measurements (mm.) and indices:									
1 Max. length	515								
2 Bic. length	510								
3 Max. diam. head			40					40	
4 Mid. shaft diam. a-p	38	35			31			26	26.
5 Mid. shaft diam. lateral	27	25			28			23	23.
Middle index 5×100/4	71.05	71.43			90.32			88.46	88.46.
6 Subtrochantric diam. a-p	28	26	22	22				29	28.
7 Subtrochantric diam. lat	35	35	30	29				22	21.
Index of platymeria 6×100/7	80.00	74.29	73.33	75.86				75.86	75.00.
Observations:									
Crista hypotrochanterica	Med	Slight	Absent	Absent				Absent	Absent.
Fossa hypotrochanterica	Absent	Absent	do	do				Med	Med.
Third trochanter	Pro[2]	Submed	do	do				do	Do.
Middle shaft shape	Quad	Quad	Quad	Quad	Quad	Quad	Quad	Quad	Quad.
Linea aspera	Pro	Med	Submed	Submed	Med	Med	Med	Submed	Submed.
Degree of torsion of the upper portion.	V. pro	Slight	Slight						Slight.
Specimen	Complete	Shaft and prox. end.	Shaft and prox. end.	Shaft	Shaft	Shaft	Shaft	Shaft and prox. end.	Shaft and prox. end.

---

[1] ┌──┐=paired.

[2] Pronounced.

TABLE 7—*14P014 series: Postcranial measurements and observations*[1]—Continued

TIBIA

	101, M, lt.	58, M, lt.	61, M, rt.[1]	102, F, lt.	49/24, F, rt.	49/23, F, lt.[1]
Measurements (mm.) and indices:						
1 Maximum length						
2 Middle diam. a-p				28*	26*	26.
3 Middle diam. lat				19*	19*	19.
Middle index 3×100/2				67.86	73.08	73.08.
4 Nutritive foram. diam. a-p	37			30	28	31.
5 Nutritive foram. diam. lat	24			21	20	20.
Index of platycnemia 5×100/4	64.86			70.00	71.43	64.52.
Observations:						
Shape of shaft at middle	1 [3]	4 [4]	4	5 [5]	1	1.
Retroversion of head						
Lateral condyle				Convex		
Squatting facets						
Specimen	Shaft and distal end	Shaft and prox. end	Shaft	Shaft and prox. end	Shaft and prox. end	Shaft.

HUMERUS

	49/14, F, rt.	49/13, F, lt.[1]	51, M, lt.	79, M, lt.	78, M, rt.[1]	81, F, lt.	80, F, rt.[1]
Measurements (mm.) and indices:							
11 Max. length		298					
2 Humeral head, max. diam		37					
3 Middle max. diam	19	20	24*	21*	26*	19*	19*.
4 Middle min. diam	14	14	18*	17*	18*	16*	16*.
Index 4/100/3	73.68	70.00	75.00	70.83	69.23	84.21	84.21.
Observations:							
Shape of shaft	Quad	Quad	Quad	Quad	Quad	Prismatic	Prismatic.
Sepatal aperture	Large	Large		Med	Absent	Large	Large.
Supra condylar process	Absent	Absent		Absent	Absent	Absent	Absent.
Specimen	Shaft and distal end.	Complete	Shaft	Shaft and distal end.	Shaft and distal end.	Shaft and distal end.	Shaft and distal end.

RADIUS

	49/17, F, rt.	89, M, lt.	84, M (?), rt.	91, ?, lt.
Measurements (mm.):				
Maximum length		290		
Observations:				
Mid-shaft shape	External surface convex	External surface convex	External surface convex	External surface convex.
Specimen	Shaft and distal end	Complete	Shaft and distal end	Shaft and distal end.

ULNA

	49/15, F, rt.	83, M, lt.	85, M, rt.
Measurements (mm.): Maximum length	265	315	
Observations:			
Mid-shaft shape	Prismatic	Prismatic	Prismatic.
Specimen	Complete	Complete	Shaft.

FIBULA

	49/19, F, rt.	106, M, lt.	90, ?, lt.	108, ?, rt.
Measurements (mm.):				
Maximum length				
Observations:				
Mid-shaft shape	Quad	Quad	Medial surface fluted	Lateral prismatic.
Specimen	Shaft	Shaft	Shaft	Shaft and distal end.

---

*Center of shaft estimated.

[1] |‾‾‾‾‾‾‾‾| =paired.

[3] Ordinary prism.

[4] Posterior surface divided in two by vertical ridge.

[5] Interior border indistinct, posterior half of bone oval.

In June 1956, some 2 years after this report was completed and submitted for publication, William M. Bass checked the skeletal material from 14PO14 in the Division of Physical Anthropology at the United States National Museum, Smithsonian Institution, and submitted the following comments:

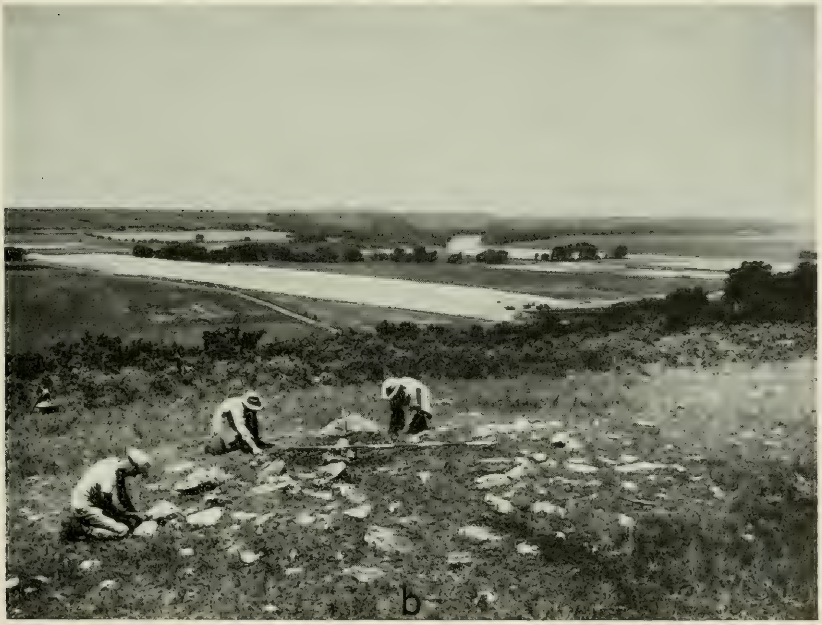
The condition of the specimens, age, sex and a few measurements were checked. As a result of this study I feel that Cumming's report is well done and would recommend only the following additions and changes:

Cranium No. 66 (burial 4) showed intense copper staining on both sides of the skull, centering on the ears and right ascending ramus of the mandible. Less obvious copper staining was found on the distal end of the left radius and on both clavicles (Cumming, p. 51). There was a slight suggestion of copper staining on the left supra-orbital margin of cranium No. 65.

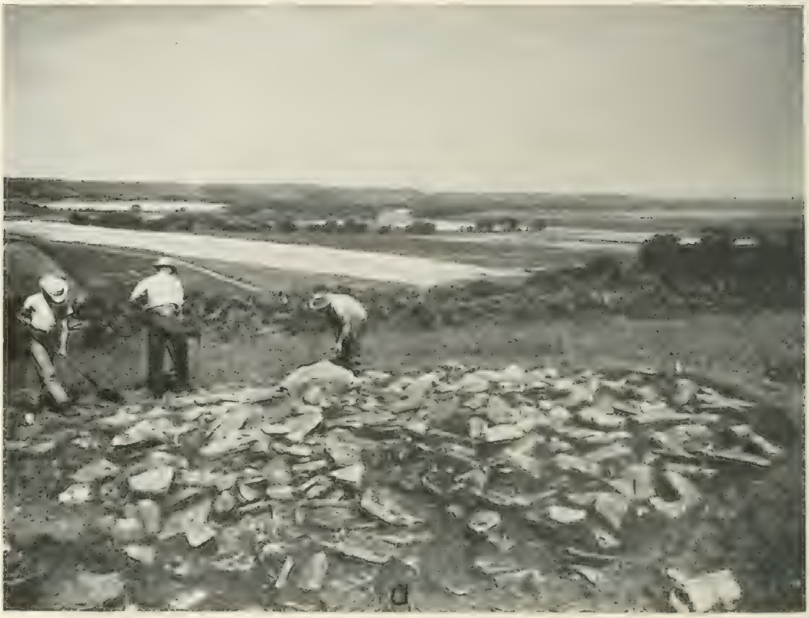
The three lower burials at this site, specimens Nos. 65, 66 and 73 showed a black staining on some of the bones, especially the arm and leg bones. This black staining may be due to manganese. Scrapings from the stained part of the bone yielded a positive micro-chemical test for manganese (micro-chemical test conducted by Edward P. Henderson in the Museum's chemical laboratory). Webb noted similar stains on bones from Indian Knoll and upon chemical analysis concluded that under certain conditions where a limited amount of red ocher is used on the flesh of the dead body a chemical change occurs following decomposition, which results in a black staining of the bone (Webb 1946, pp. 247–48). Webb makes no reference to having tested the bones for manganese.

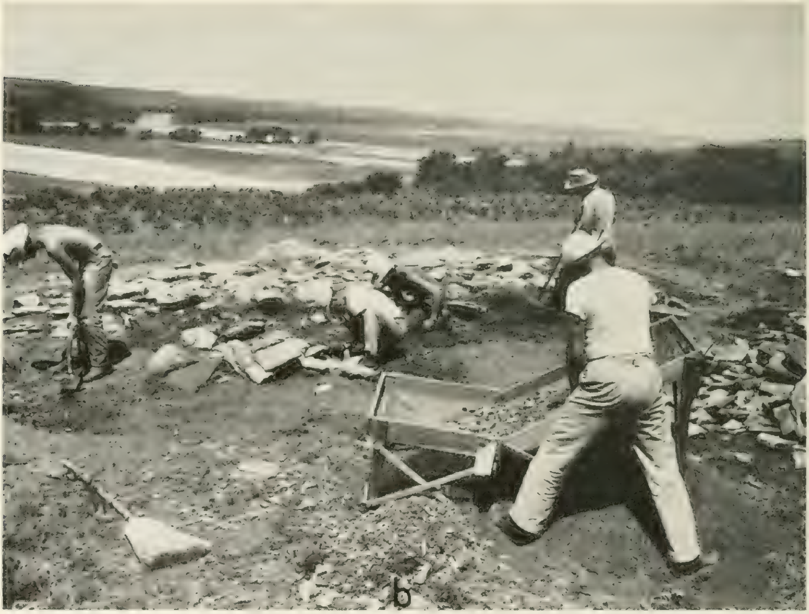
The ages of all six specimens given by Cumming were too high. By careful analysis it has been possible to definitely establish the age of 2 individuals, specimens 49 and 66, and to lower the age of the remaining 4. Aging was based on tooth wear and epiphyseal union. The following are the ages assigned to each specimen:

Specimen No.	*Age*
50	40–50 ?
47	40–50 ?
65	30–40 ?
66	22–25
49	17–21
73	25± ?

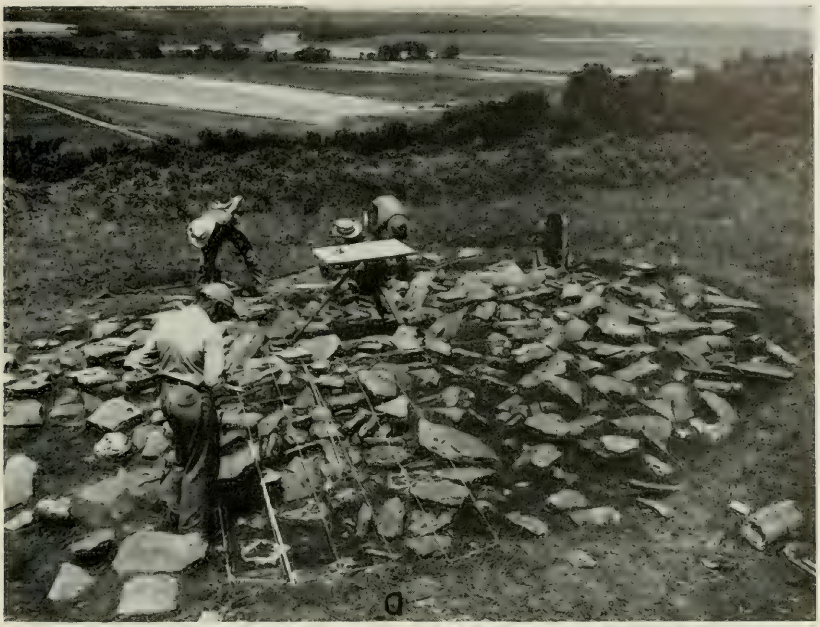


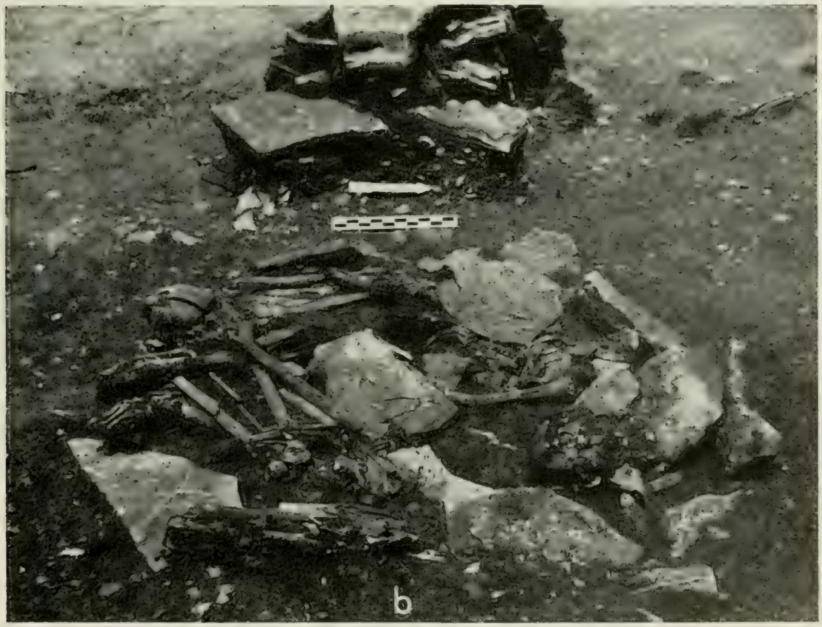
a, A view of Sweat Bee Mound before excavation. *b*, Sweat Bee Mound after clearing off the overgrowth.



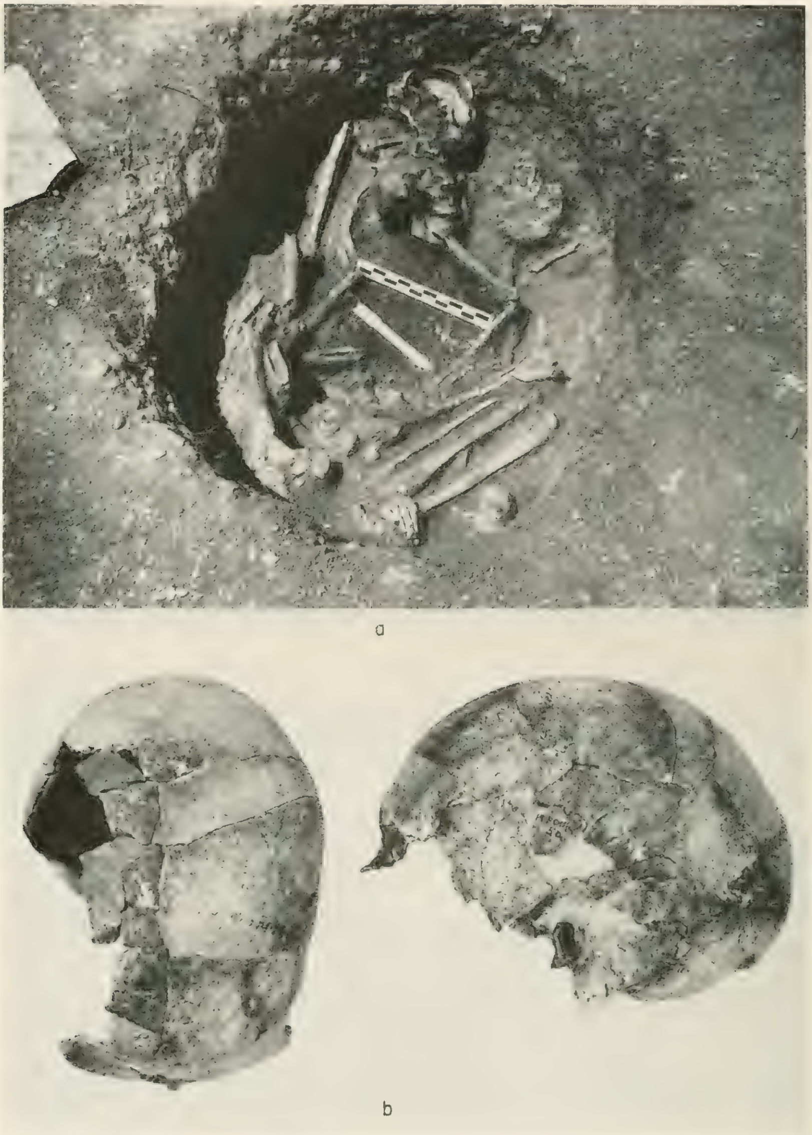


a, Sweat Bee Mound after removal of the soil fill. *b*, Excavating Sweat Bee Mound.

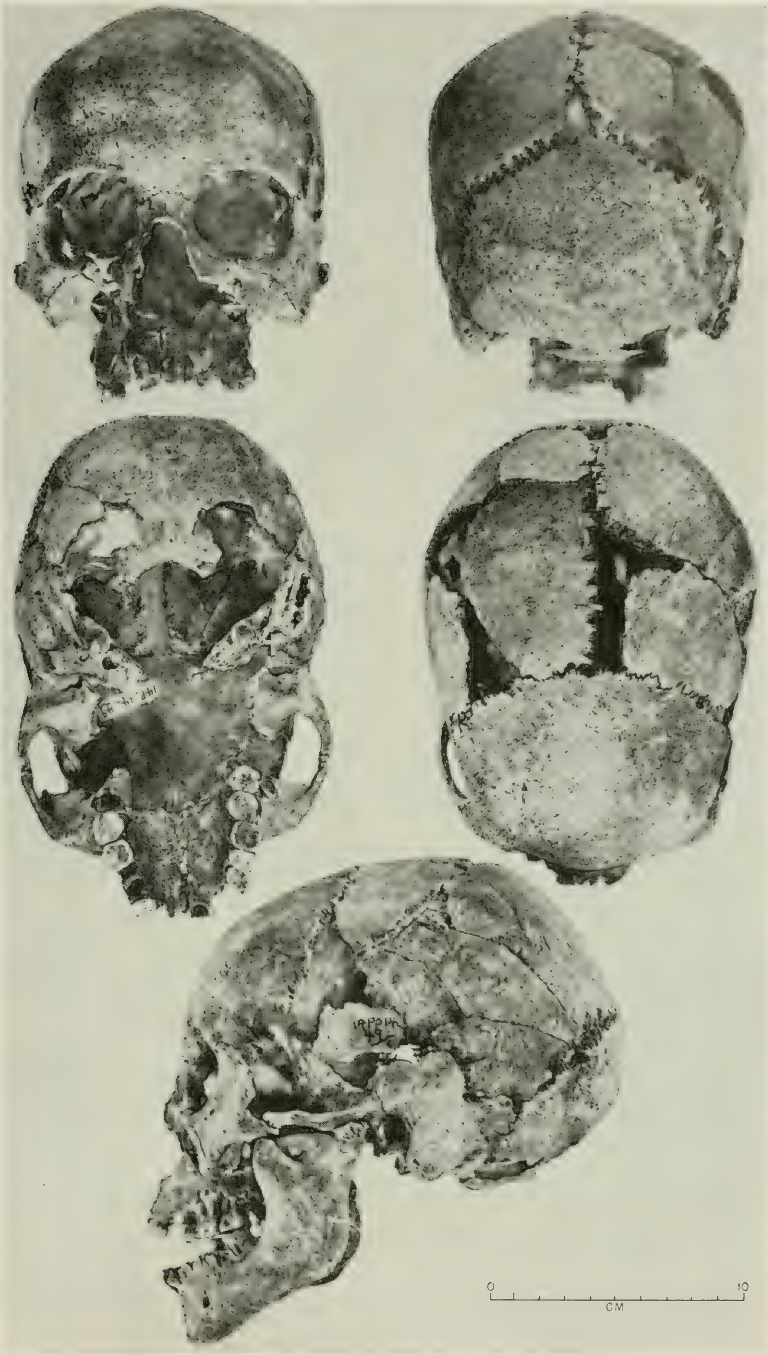




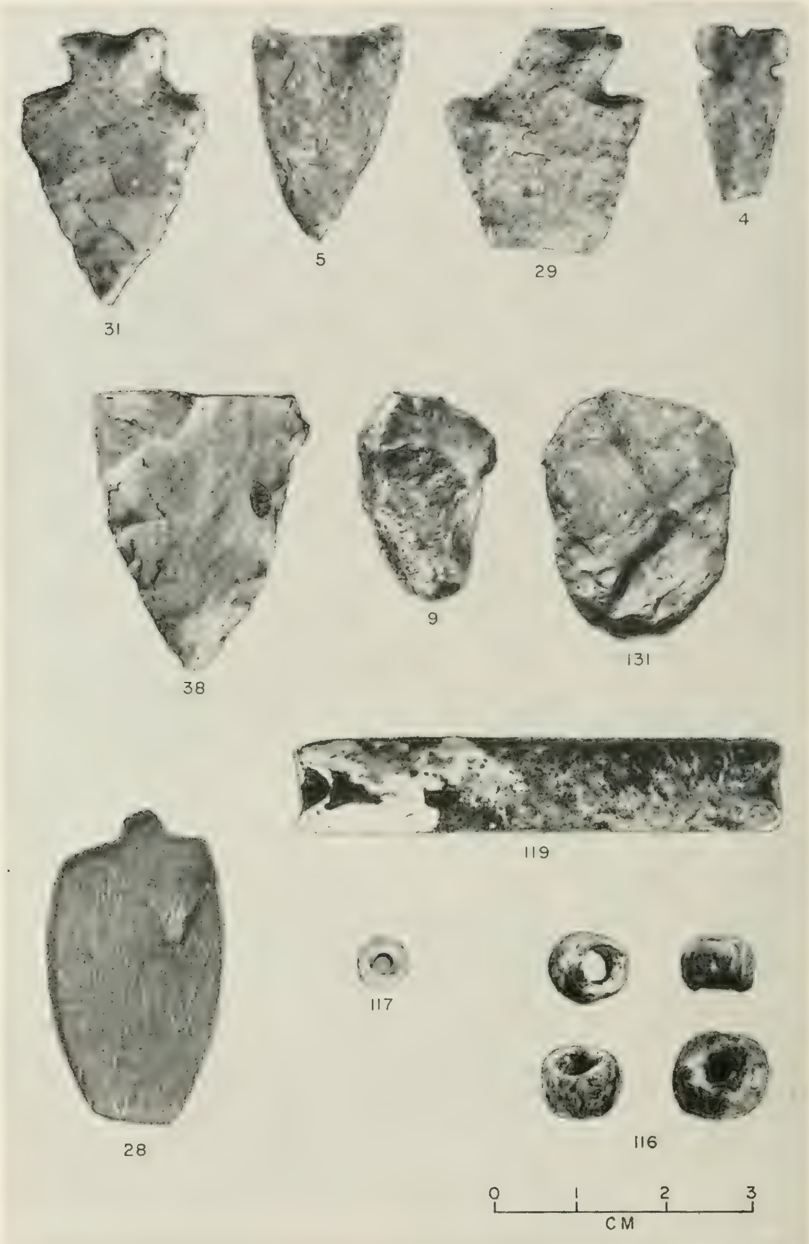
a, Excavating and mapping Sweat Bee Mound. *b*, View of the upper burials of feature 1 of the Sweat Bee Mound.



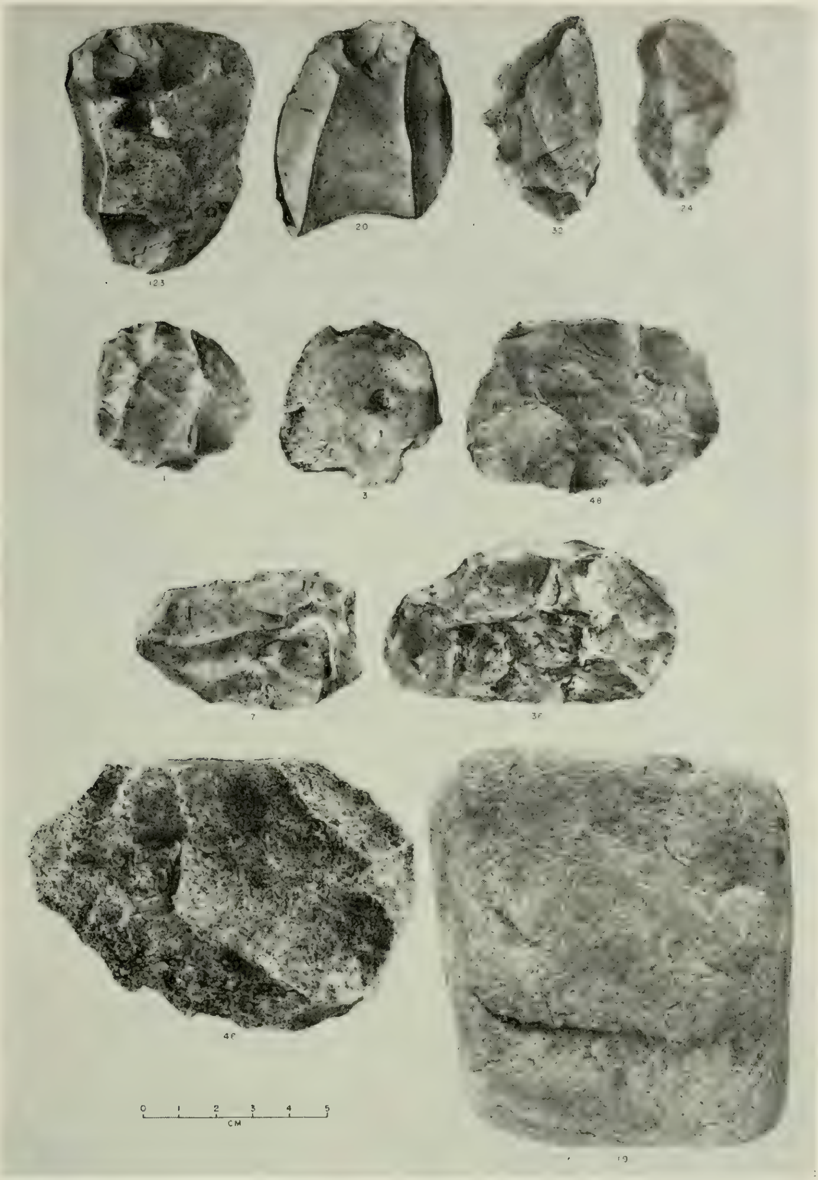
a, View of the lower burials of feature 1 of the Sweat Bee Mound. *b*, Views of the male skull of burial 2, No. 50, of the Sweat Bee Mound site.



Views of the female skull of burial 1, No. 49, of the Sweat Bee Mound site.

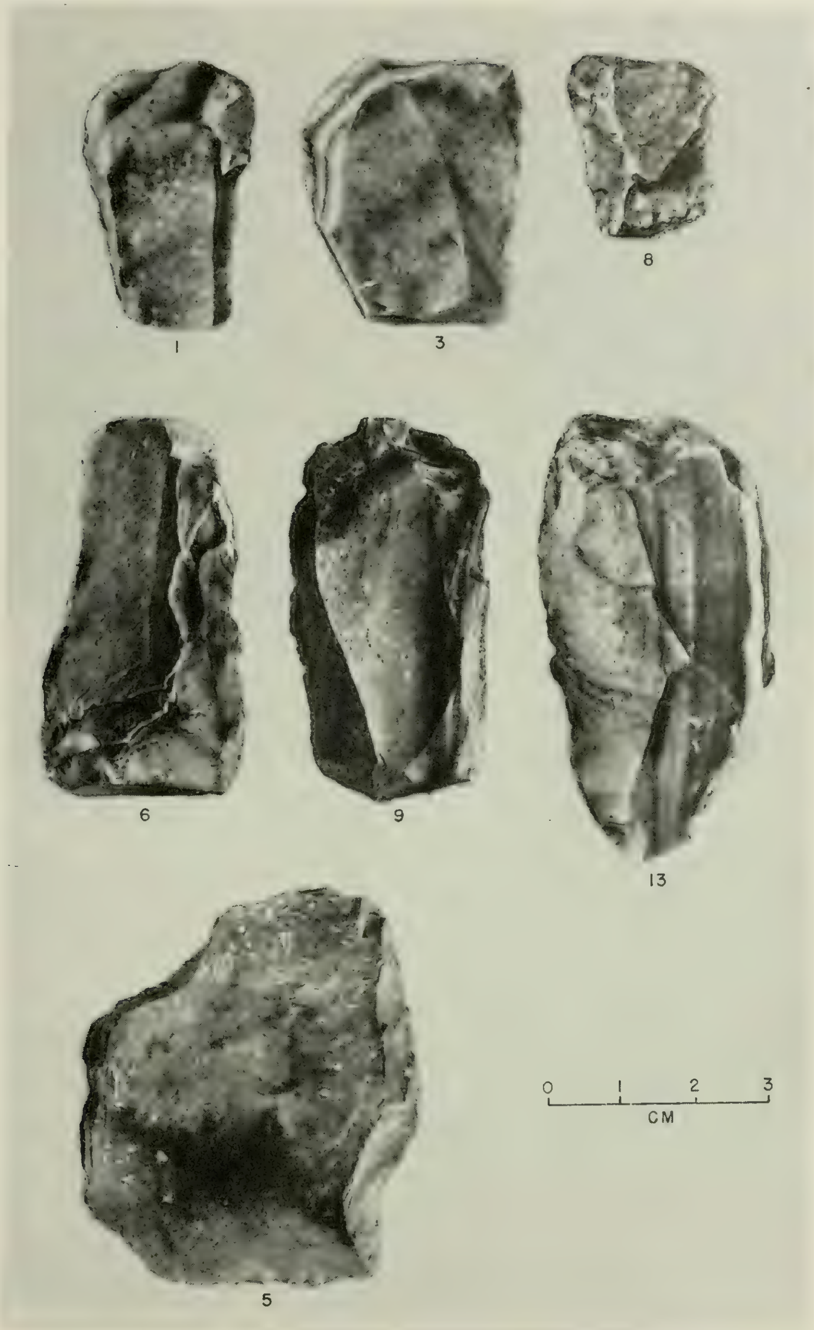

31
5
29
4
38
9
131
119
28
117
116
0 1 2 3
CM

Sweat Bee Mound site. Projectile points: Nos. 31, 5, 29, 4. Blade: No. 38. Scrapers: Nos. 9, 131. Conch shell bead: No. 119. Catlinite object: No. 28. Disk shell bead: No. 117. Copper beads: No. 116.

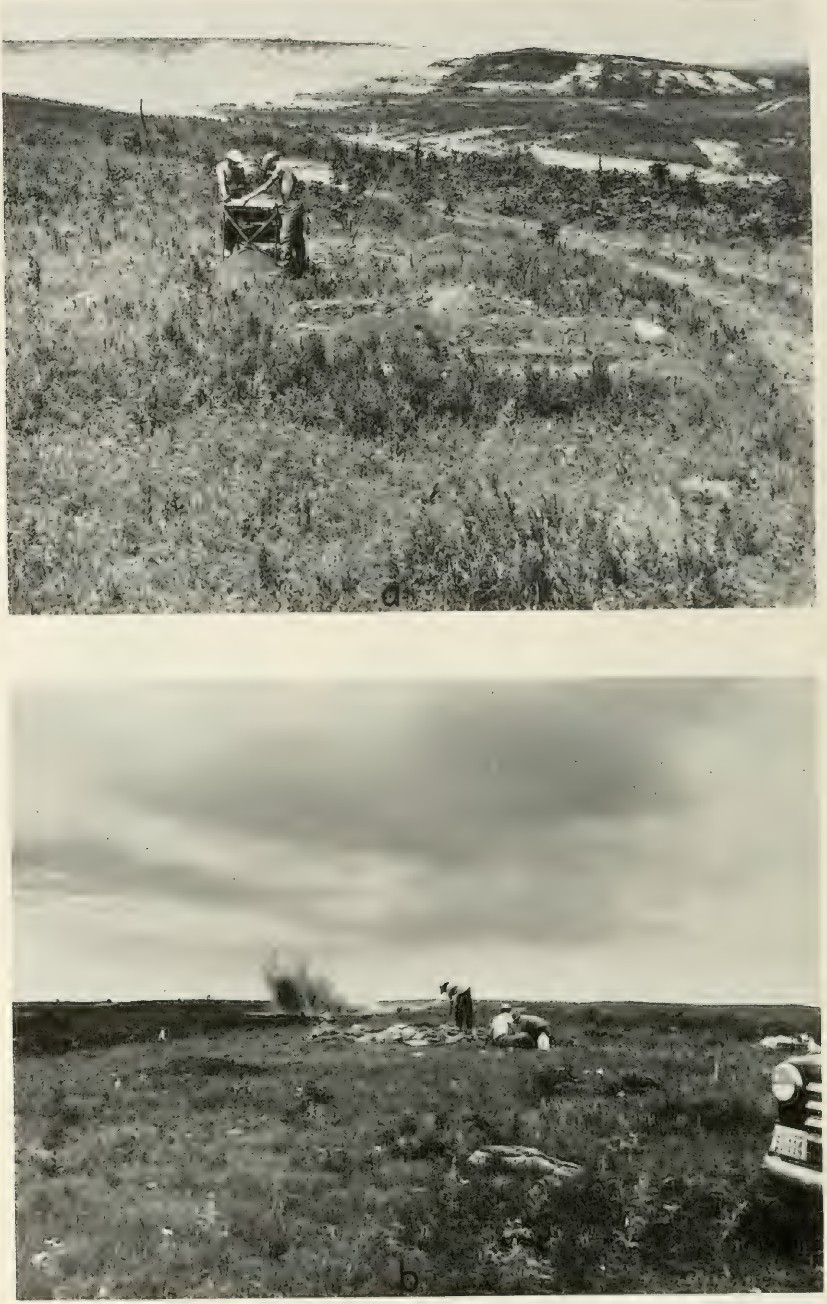

123
20
32
24
1
3
48
7
36
46
19
0 1 2 3 4 5
CM

Sweat Bee Mound site. Scrapers: Nos. 123, 20, 32, 124, 1, 3. Cutters: Nos. 48, 7, 36. Modified core: No. 46. Anvil: No. 19.

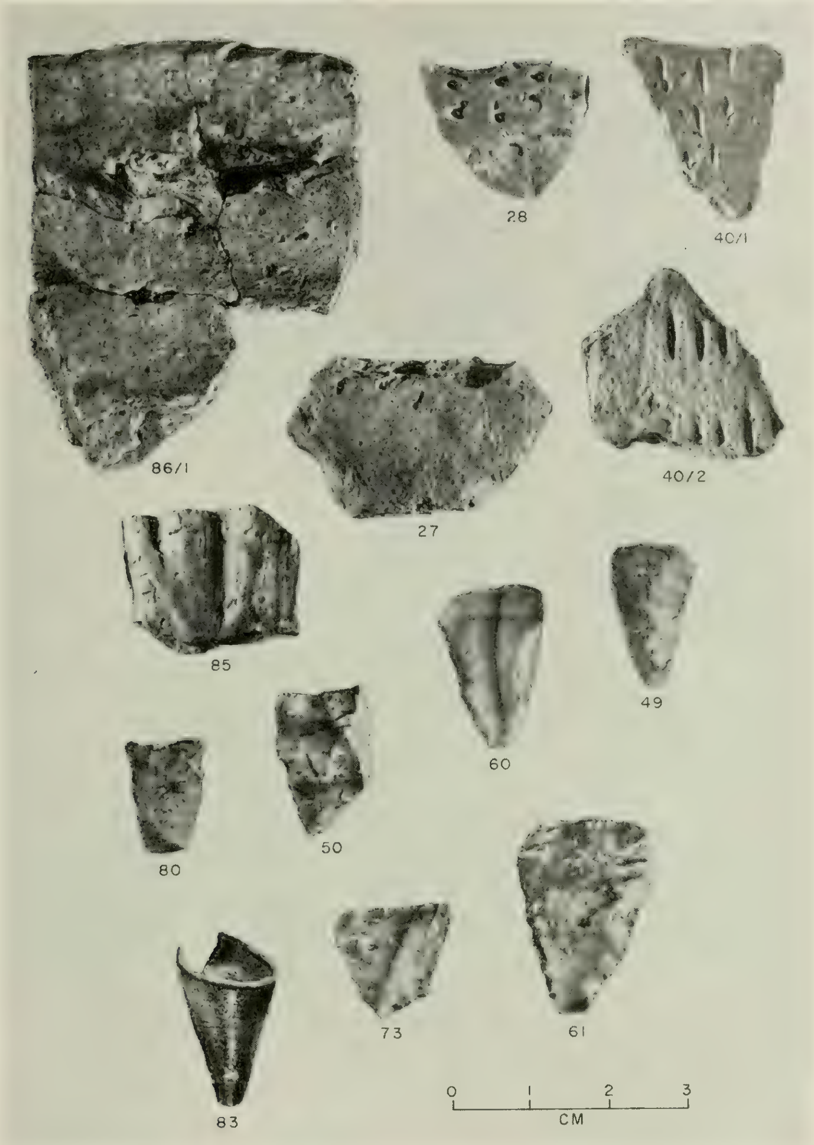
a, A view of the remaining portion of the Spillway site. *b*, Testing village site 14RY10.


1
3
8
6
9
13
5
0 1 2 3
CM

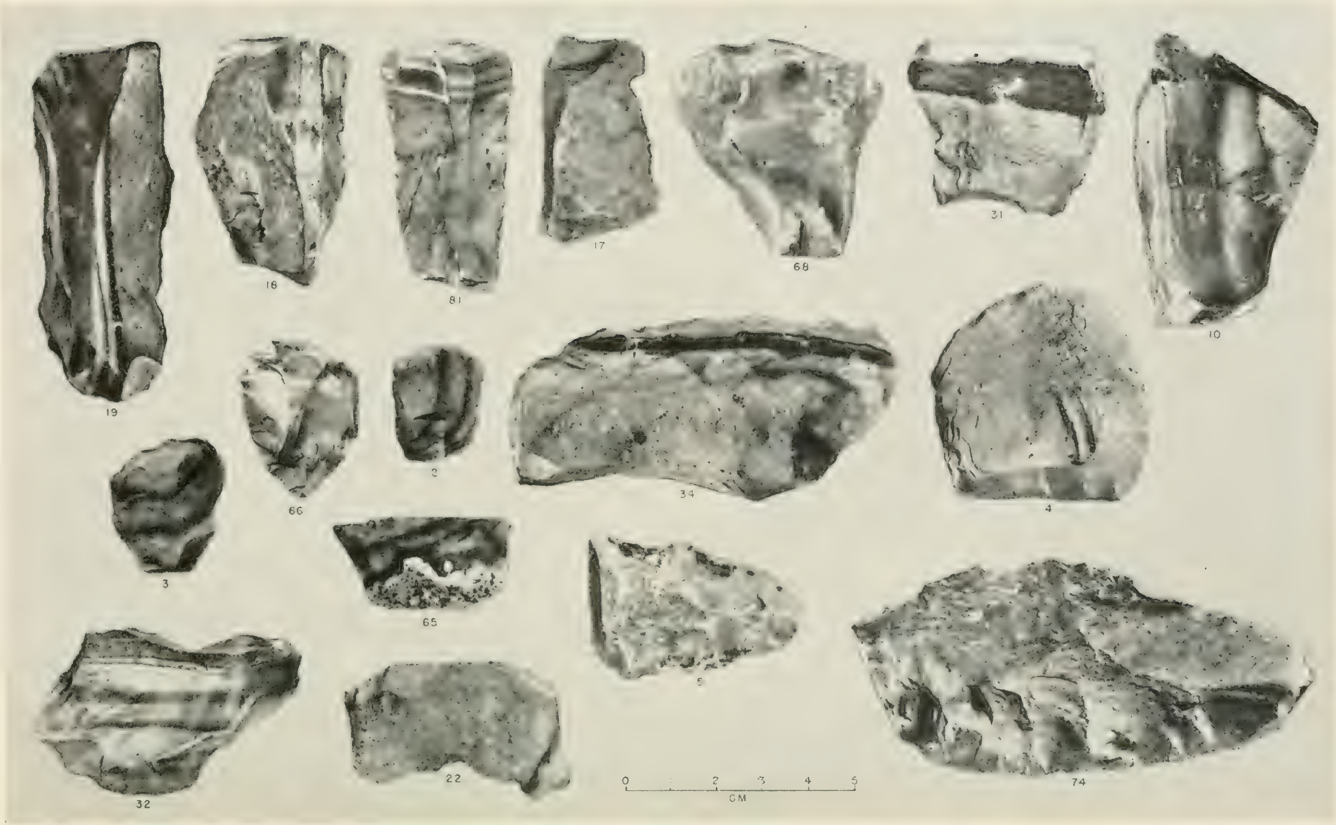
Spillway site. End scrapers: Nos. 1, 3, 8. Side scrapers: Nos. 6, 9, 13, 5.



a, Testing at the Reany site. Spillway site above cut in background. *b*, The Spillway and Reany sites being destroyed by construction activities. Sweat Bee Mound in the foreground.


86/1
28
40/1
40/2
27
85
49
60
50
80
73
61
83
0
1
2
3
CM

Reany site. Rim sherd: No. 86/1. Body sherds: Nos. 28, 40/1, 27, 40/2. Strap handle: No. 85. Projectile points: Nos. 80, 50, 60, 49, 73, 61. Copper jingle: No. 83.


19
18
81
17
68
31
10
66
2
34
4
3
65
5
74
32
22
0
2
3
4
5
CM

Reany site. End scrapers: group 1—Nos. 19, 18, 81, 17; group 2—Nos. 68, 31, 10; group 3—Nos. 3, 66, 2; miscellaneous—Nos. 34, 4. Side scrapers: Nos. 32, 22, 65. Blade: No. 5. Chopper: No. 74.

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Bureau of American Ethnology
Bulletin 169

River Basin Surveys Papers, No. 11

The Spain Site (39LM301), a Winter Village in Fort Randall Reservoir, South Dakota

By CARLYLE S. SMITH and ROGER T. GRANGE, Jr.

422141—58——8

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PREFACE

The Spain site in Fort Randall Reservoir, S. Dak., was excavated under a cooperative agreement between the University of Kansas and the United States National Park Service as a part of the Inter-Agency Archeological Salvage Program in the Missouri Basin. Gordon C. Baldwin, Merrill J. Mattes, John M. Corbett, and Paul L. Beaubien of the National Park Service were helpful in many ways. The Missouri Basin Project of the Smithsonian Institution, through Robert L. Stephenson, chief, was especially helpful in furnishing a vehicle for our use. The Corps of Engineers, United States Army, permitted excavation on land acquired for the reservoir and made available to us the buildings of the Jewell Ranch as a base from which to carry out our work.

From June 13 to August 6, 1953, excavations were carried on under the direction of Smith at the Lyman site (39LM33), the Deerfly site (39LM39), the King site (39LM55), and the Spain site (39LM301). Surface collections were gathered from the Clarkstown site (39LM47) on several occasions. The most extensive investigations were at the Spain site where excavations were carried on from July 9 to August 6.

Grange supervised the personnel engaged in the excavations and was responsible for the field records and photography. Later, he prepared the sections of this report dealing with the methods of excavation, the features, and the descriptions of the artifacts of bone, antler, and stone. Shirley Lyon was in charge of the processing and cataloguing of the specimens in the field and also prepared the final copies of the maps. Walter Fredericksen, Jr., did the surveying. Karl Koeppel served as cook.

The following individuals deserve recognition for their assistance in excavating the sites: John Bradbury, Karl Heider, Mary Kiehl, Thomas Moore, Mark Shields, Wayne Shields, Daniel Scheans, Richard Spreitzer, Barbara Trotter, Jerry Voice, Jane Whitner (Mrs. Grange), and W. Raymond Wood. Mrs. Smith and Evan Smith, along with Schnapps, a dachshund, lent moral support to the project. In the laboratory, Alfred Johnson, Earl S. Barnhill, Charles Eyman, and Randall Weeks assisted in the restoration of the pottery and in the tabulation of data.

Invaluable assistance was rendered by the following persons in the identification of various items: Theodore E. White, James S. Findley, and Glen Woolfenden, animal bones; Worthie H. Horr, botanical specimens. A Byron Leonard, mollusks; John A. Schleicher and Kenneth E. Rose, copper specimens.

CARLYLE S. SMITH,
Museum of Natural History,
University of Kansas.
ROGER T. GRANGE, JR.,
Nebraska State Historical Society.

December 21, 1956.

THE SPAIN SITE (39LM301), A WINTER VILLAGE IN FORT RANDALL RESERVOIR, SOUTH DAKOTA[1]

By Carlyle S. Smith and Roger T. Grange, Jr.

INTRODUCTION

The Spain site (39LM301) is an earth-lodge village in Lyman County, S. Dak., situated in the bottom lands at an elevation of 1,335 feet above sea level on the west bank of the Missouri River within the area to be flooded by water impounded by the Fort Randall Dam. Over the site the water will fluctuate from 15 to 45 feet in depth when the dam is completed. Evidence of occupation extends over an area measuring approximately 1,000 feet from north to south and 700 feet from east to west at a point about a mile and a half southwest of the mouth of the White River on Bull Creek, about a mile west of its mouth (maps 5, 6; pl. 25, *a*, *b*). The most productive portion of the site lies within the SE¼ of the NE¼ of the NW¼, sec. 32 T103N R72W, on land formerly owned by Abraham Spain, after whom the site is named. Excavations were carried on in July and August 1953 well in advance of the rise of the water in the reservoir.

Bull Creek is a translation of the Dakota name for the stream. At times it has been designated as Ball Creek and as Shannon's Creek. Waterhole Creek, a stream entering the Missouri farther south, has been confused with it.

According to Mattes (1949, pp. 514–515), Lewis and Clark camped below the mouth of Bull Creek on their way up the Missouri River on September 14, 1804 (Thwaites, 1904, vol. 1, pp. 146–147). On the day ending with this camp they made a fruitless search for an alleged volcano and shot and ate their first antelope. It was on Bull Creek that Pvt. George Shannon, a lost member of their party, subsisted on grapes after his bullets had been expended. No Indians were reported in the vicinity.

Bull Creek enters the bottom lands of the Missouri River from the west, issuing from a narrow valley flanked by high grass-covered

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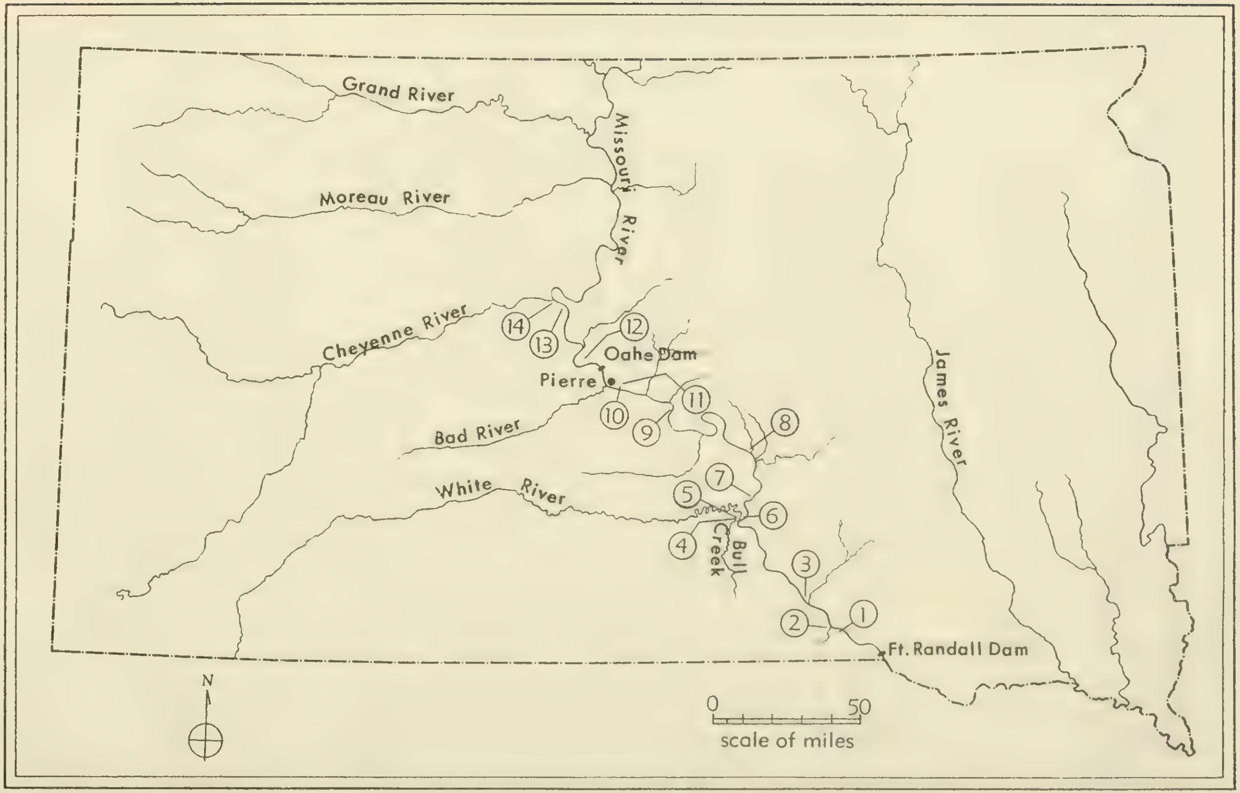
[1] Revised manuscript submitted December 1956. Original report submitted to the Region Two office of the National Park Service in July 1954 and accepted in June 1955 by the Regional Director as completing the agreement between the National Park Service and the University of Kansas.


Grand River
Moreau River
Missouri River
Cheyenne River
Oahe Dam
Pierre
Bad River
White River
Bull Creek
James River
Ft. Randall Dam
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
0
50
scale of miles
N

Map 5.—Map of South Dakota. 1, Ellis Creek site; 2, Scalp Creek site; 3, Oldham site; 4, Spain site; 5, Deerfly site; 6, Clarkstown site; 7, Oacoma site; 8, Talking Crow site; 9, La Roche site; 10, McClure site; 11, Arzberger site; 12, Robinson site; 13, Black Widow site; 14, Meyer site.

bluffs. Upon reaching the flat lowlands the stream begins a series of tortuous meanders bordered by dense growths of trees and brush. Between the larger loops occur hidden meadows, favorite bedding grounds for deer at the time of our investigations (pls. 25, *a*, *b*; 26, *a*; 27, *a*; 28, *a*). The Spain site is situated in one of the meadows, bordered on the south by the present channel of Bull Creek and on the other three sides by an abandoned meander, now active only in time of flood (map 6). We were informed by Abraham Spain that the stream had cut off the old channel in 1920. Prior to this he had cultivated the meadow as part of his agricultural land to the south. Test pits indicate that the occupation extended south of the present channel.

The surface of the site was marked by four barely perceptible hummocks. The heavy cover of sod precluded the discovery of surface finds. Had it not been for Mr. Spain's cooperation in pointing out where he had found pottery in the course of plowing the area the existence of the site would not have been suspected.

The location of the Spain site in the bottom lands at an elevation of 1,335 feet above sea level, 15 feet above the banks of the Missouri River, is unusually low for a village site in the Plains. The nearby Deerfly and Clarkstown sites (pl. 25, *a*, *b*), described in the Appendix, are on terraces overlooking the river at elevations of 1,370 and 1,350 feet, respectively.

METHODS OF EXCAVATION

The excavations consisted of test pits, trenches, large areas exposed by digging contiguous squares, and irregular cuts carried to the limits of certain features (map 6). The grid system used in the excavations was oriented on magnetic north. The designation of each square was in relation to a zero stake in Feature 1 on the northeastern side of hummock A. Trenches ranged from 2 to 5 feet in width and were divided into sections 10 feet long for control of horizontal provenience. Some areas were excavated in 10-foot squares. Arbitrary 8-inch levels were used except in special cases requiring the following of physical strata or a shift to 3-inch levels when the concentration of refuse seemed to warrant it.

The site was tested originally by digging 2 trenches, each 10 feet long and 2 feet wide, in areas pointed out by Abraham Spain as locations where he recalled finding pottery while plowing. The first test yielded a few fragments of animal bones but no artifacts. The second test fell within the limits of a rich deposit of refuse, Feature 1, and was later incorporated in a square on the grid in excavation unit 1.

Within the limits of the meadow and across the stream channels to the east, west, and south 79 test pits were dug. Each of these was approximately 2 feet square and was excavated to subsoil about 16 inches from the surface. In the bottom of each pit a hole was drilled with a soil auger in search of physical stratigraphy below. Trenches were dug in areas where the test pits indicated concentrations of artifacts or soil changes indicative of features such as pits, houses, or fireplaces. The test pits and trenches indicated that the most productive part of the site was from the northern limits of house 1 southward to the present channel of Bull creek. Only an occasional potsherd or fragment of bone was found in tests north of house 1, and across the old meander of the stream to the east and west. A slightly heavier concentration on the south side of Bull Creek did not warrant further investigation.

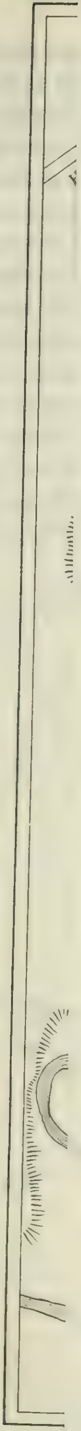
The intensive investigation of productive areas revealed by test pits was carried on in six excavation units. The methods of excavation in each unit are discussed here but details concerning the features are to be found in the next section.

Excavation unit 1 began with a 5-foot wide primary trench running north to south through Feature 1, the principal refuse deposit on the site, and ended with the complete excavation of the feature plus a system of trenches running into hummock A to the southwest. In Feature 1 a cross trench 5 feet wide was carried from east to west near the center of the deposit and a second, shorter, trench was dug parallel to it 10 feet to the south. The cross trenches and the primary trench delimited a 10-foot square in the center of the deposit.

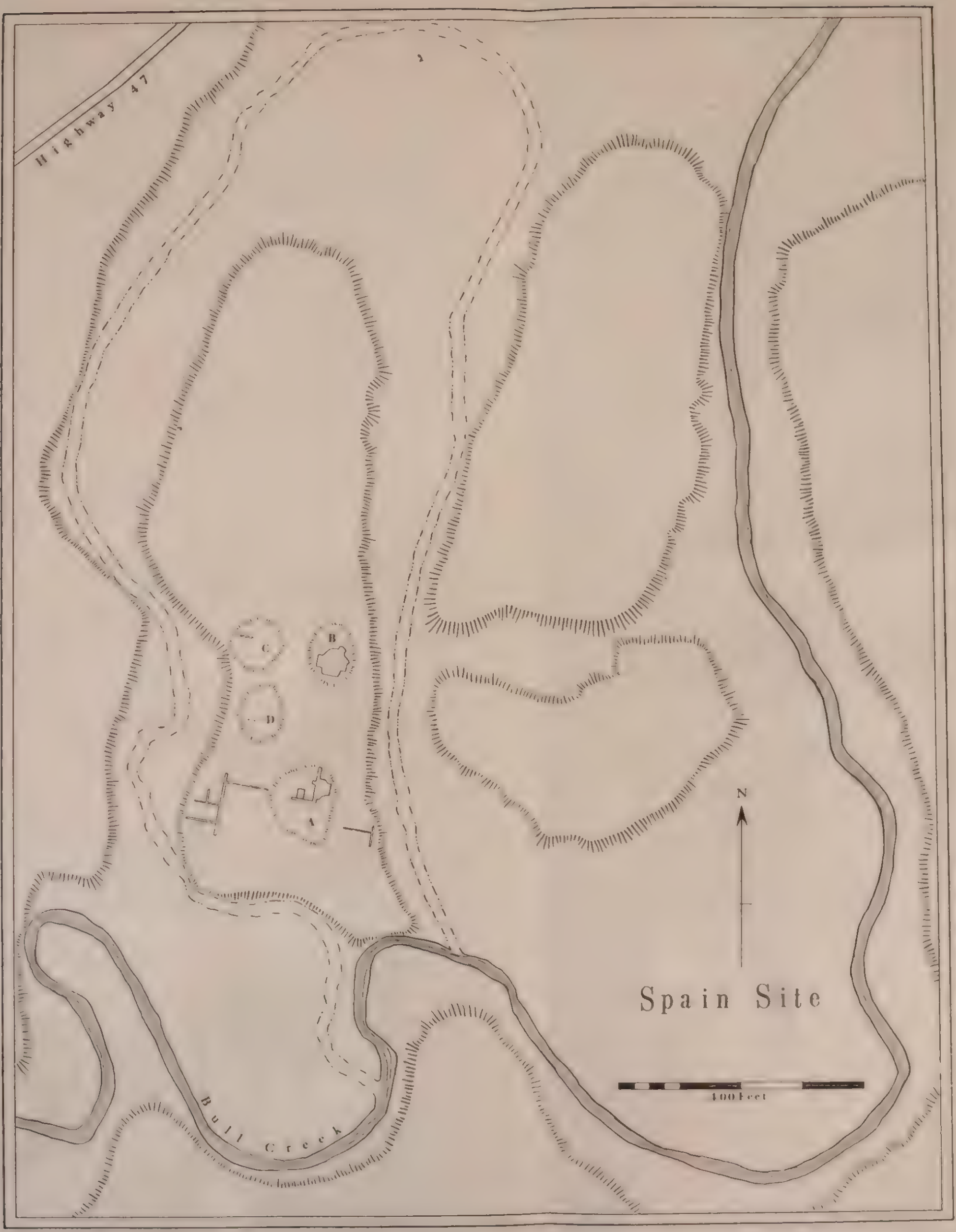
The 10-foot square was used as a strata block (pl. 26, *b*, *c*). The plow-torn humus measuring 8 inches in thickness was removed as a unit and the refuse below it was taken out in 3-inch levels designated A, B, C. The refuse deposit was then followed in all directions until its limits were found. Trowels had to be used as soon as the layer of refuse was reached because the deposit was so compact that shovels could not be forced into it without damaging specimens. Approximately three-quarters of all the specimens found at the site came from the excavations in Feature 1.

A trench was dug westward from the southern end of the primary trench into hummock A. Additional trenches and squares were excavated to examine Feature 3, a layer of light-colored soil containing traces of ashes, on the theory that it might mark the site of a house. No concrete evidence for the presence of a structure was found in this excavation unit.

Excavation unit 2 consisted of a series of trenches in the southwestern part of the site (pl. 26, *a*) where test pits had yielded a light concentration of potsherds. One trench was dug from north to south; it was 100 feet long with exploratory arms extending to the west and east. The depth of excavation within the trenches varied from 8 to 14 inches. The humus averaged only 6 inches in thickness. Below



422141 O—58 (Face p. 88)


Highway 47
Spain Site
N
A
B
C
D
Bull Creek
400 Feet

MAP 6.—Map of the Spain site. The area of heaviest occupation is enclosed on three sides by an abandoned meander of Bull Creek. Hummocks are designated A, B, C, and D.

422141 O—58 (Face p. 88)

it a discontinuous zone of gray refuse-bearing soil was encountered from 6 to 12 inches deep, overlying sterile subsoil. A small fireplace, Feature 2, was found along with scattered sherds and other artifacts.

Excavation unit 3, in the southeastern part of the site, consisted of a T-shaped trench centered on a test pit that had yielded a few sherds. Subsoil was encountered at depths ranging from 8 to 14 inches and little cultural material was found.

Excavation unit 4 began with a test pit in hummock B that yielded a concentration of charcoal and ended with the excavation of house 1 and a deposit of refuse (pl. 27, *a*; pl. 28, *a*, *b*; fig. 3). The test pit was incorporated in a cross trench which revealed the fireplace, floor, and edges of the house on a line running from east to west. A cross trench running from north to south near the fireplace, Feature 5, further delimited the structure. The intervening quadrants were excavated down to the floor. Later, several 10-foot squares to the south and west were excavated to obtain specimens from a refuse deposit.

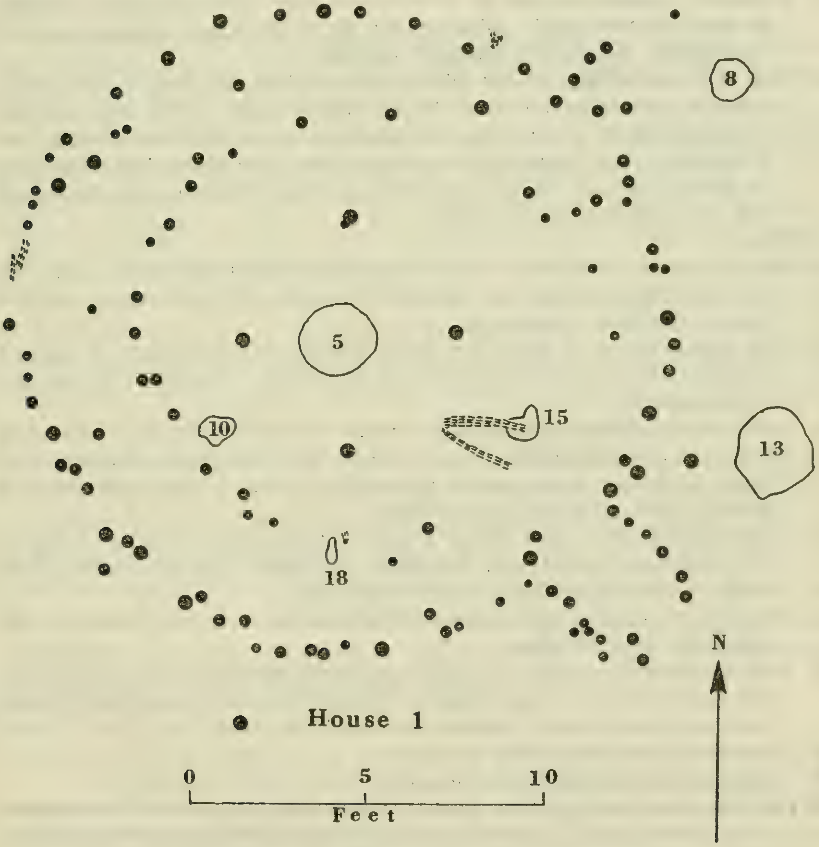


Figure 3.—Ground plan of house 1. The inner ring of posts belongs to house 1A. Numbers refer to features described in the text.

A cache pit, Feature 13, was excavated near the entrance passage outside of the house on the east side.

Excavation unit 5 consisted of a trench in the northwestern part of hummock C extending east and west from a test pit that had yielded ashes and other cultural material. A fireplace (pl. 27, *c*) and three post molds indicated the presence of house 2. Lack of time and poor definition in the soil precluded the complete excavation of the remains of the structure.

Excavation unit 6 consisted of a test trench dug in hummock D. Nothing identifiable as house fill was found. The same gray soil encountered in the testing of house 2 was encountered. If a house existed in this area it was even more poorly preserved than house 2.

FEATURES

GENERAL DESCRIPTION OF FEATURES BY NUMBER

1. See Refuse Deposits.
2. Fireplace in excavation unit 2. Oval-shaped area of burned earth; no ashes or charcoal associated. Dimensions: 22 × 28 inches. Burned earth 2 inches thick. Depth, 6 inches below surface.
3. Thin soil zone of light yellow colored ashes and/or silt, from ½ to 2 inches thick in excavation unit 1 on the top of hummock A. The area was not fully exposed by excavation. Its limits as excavated were 20×23 feet. No posts or other house features were found. The yellow layer was 11 to 16 inches below the surface and was deposited directly on the sterile subsoil. Contents: A few potsherds.
4. House 1.
5. Central fireplace in house 1 (fig. 3), a basin-shaped pit filled with ashes. Below the ashes the earth was burned. Diameter, 40 × 42 inches; depth, 9 inches. Contents: Potsherds.
6. Oval concentration of ashes and refuse outside the south edge of house 1. Diameter, 36 × 59 inches; thickness, 3½ inches. Contents: Pottery and bone fragments.
7. Oval area of sterile subsoil showing through the yellow soil layer of feature 3. Tested as a possible sterile plug in a cache pit. The feature seems to have been a high spot in the subsoil underlying feature 3. Diameter, 36 × 56 inches; depth, 16 inches below surface.
8. Irregular basin-shaped pit outside the northeast quadrant of house 1 (fig. 3), 56 inches from house edge. Diameter, 27 inches; depth, 6 inches. Contents: Potsherds, ashes, and bone fragments.
9. Similar to Feature 7 and also located within the limits of Feature 3. Dimensions: 22 × 26 inches.
10. Area of burned clay on the floor of the southwest quadrant of house 1 (fig. 3). The feature consists of an irregular oval of burned clay underlain by darkened and burned earth. Dimensions: 15 × 22 inches.
11. Concentration of refuse south of house 1.
12. Concentration of refuse south of house 1.
13. Bell-shaped cache pit outside house 1 to the west, just north of the entrance to the house (fig. 3). The fill of this pit was a compact refuse-bearing clay. The compactness of the fill was probably due to flooding of the site. Di-

mensions: Diameter at mouth, 41 × 45 inches; diameter at bottom, 48 inches; depth, 24 inches. The mouth of the pit was 10 inches below surface on about the same level as floor of the entrance. Contents: Sherds, a few bone and stone tools, bone fragments, and fire-cracked stones.

14. Concentration of refuse south of house 1.
15. Deep spot in the floor of the southeastern quadrant of house 1, near the entrance (fig. 3). Filled with burned roof material in the form of charred willow rods, and grass. Irregular in shape. It may have served as a water sump. Dimensions: 15 × 30 inches; depth, 8 inches.
16. Basin-shaped firepit filled with ashes (pl. 27, *c*), the central firepit of house 2. Below the ashes the walls of the pit were of burned earth. Dimensions: Diameter, 35 × 41 inches; depth, 10 inches. Contents: Sherds.
17. House 2.
18. Small pit in house 1 (fig. 3).

HOUSES

One complete house was excavated at the Spain site. Examination of the floor plan (fig. 3) suggests that it may have been erected on site of a smaller, earlier house. Another house was examined by means of a test trench.

In the search for houses many slight depressions and areas displaying vegetation of a darker color were tested with negative results. The houses found on the site were marked by hummocks rising a few inches above the surface of the meadow. A study of the profile through house 1 and an investigation of the area surrounding it indicates that the structure was marked originally by a slight depression with a raised rim situated on a rise in the ground. Subsequent flooding seems to have filled the depression to the brim with fine silt. The rise in ground on which the house was found might be explained by the fact that it was superimposed on an earlier structure, house 1A, but the likelihood of a preexisting hummock cannot be eliminated. The removal of soil from the area around the structure to provide a final covering for the roof may have been a contributing factor.

In the four hummocks on the site, the remains of houses were identifiable in B and C. It is possible that there were remains of houses in hummocks A and D and that we did not detect the remains because of poor definition in the soil. House 1 on hummock B was well defined because the structure had burned, leaving a heavy deposit of charcoal. House 2 on hummock C was so poorly defined that the excavation of it was abandoned. Its presence would not have been suspected had the fireplace not been found.

House 1 (fig. 3; pl. 28, *a*, *b*).

Shape: Round, with a mean diameter of 29 feet. The floor was slightly basin shaped, being 4 inches deeper at the center than at the sides.

Entrance: Oriented toward the southeast. The entrance was marked by 2 parallel lines of vertical posts, 9 on one side and 5 on the other. The four molds marking the limits of the passage contained wood. In addition, 4 posts, 2 on each side, were incorporated in the wall of the house. The entrance was 7 feet long and varied in width from 4 feet to 4 feet 6 inches. Posts ranged in diameter from 3 to 8 inches and from 2 to 6 inches in depth. The 4 posts marking the limits of the entrance ranged from 4 to 8 inches in diameter and from 5 to 14 inches in depth.

Posts: The 4 center posts were on a radius of approximately 5 feet from the center of the house. Oriented on the cardinal points and wedged with bison bones, they ranged from 6 to 8 inches in diameter and from 9 to 12 inches in depth. The outer support posts consisted of 15 posts ranging in diameter from 5 to 8 inches and in depth from 5 to 19 inches. All but 1 of these posts fell on a radius of 14 feet 6 inches from the center of the house, spaced at intervals of from 3 feet to 9 feet 9 inches from each other. All of these main supports were marked by the presence of charcoal or rotten wood. Six were wedged with bison bones: Long bones, innominate bones, vertebrae, scapulae, scapula hoes, or unidentifiable fragments. The leaners ranged in size from 2 to 9 inches in diameter and from 3 to 11 inches in depth. Many were marked by the presence of wood or charcoal; others by a dark stain in the soil. Leaners fell between radii of 13 feet and 15 feet 9 inches from the center of the house. Thirty of the total of 63 posts in the outer wall fell on a radius of 14 feet 6 inches. Six posts fell outside the house edge between radii of 15 feet 9 inches and 18 feet 6 inches. These posts may have been parts of extra-house structures or may represent additional posts retaining the earth banked around the wall of the house. The structure had vertical outer walls because both the outer support posts and the leaners were set vertically in the ground.

Roof: The roof was represented by three fragments of charred beams lying on the floor pointing in toward the center of the house. Two fragments of the outer wall stringers were found between posts in the wall area. The fill of the house included fragments of burned willow rods and grass.

Fireplaces: The house had a central firepit, Feature 5, and a secondary fireplace in the southwest quadrant, Feature 10.

Cache pits: Aside from two small pocket caches no pits were found in the house floor. The only bell-shaped cache pit found at the site, Feature 13, was found outside the eastern edge of the house near the entrance.

Other features: Feature 15 was a deep spot in the floor, in the southeast quadrant near the entrance, filled with burned roof material. This feature may have served as a sump near the entrance. Feature 18 was a small area of stained soil in the floor. To the south and west of the house several 10-foot squares were excavated. These excavations revealed the presence of refuse deposited on a slope outside the house. The concentration of refuse lensed out near the edge of the house. Features 6, 11, 12, and 14 designate concentrations of refuse. Two chipped-stone blades were found on the floor of the house (pl. 27, *b*).

Fill: The floor of the house was below the present humus zone and a layer of charred roof material. The humus line was from 3 to 9 inches thick at the edges and center of the house, respectively. The fill of burned roof material was from 2 to 6 inches thick at the same points. The floor of the house was 6 to 10 inches below the surface on the western and eastern sides, respectively, and 12 inches below the surface at the center.

House 1A.

Shape: Round, with a mean diameter of 19 feet 6 inches. This feature appears as an intermediate ring of posts in the floor of house 1.

Entrance: Not found.

Posts: The center posts of house 1 seem to have obliterated all but one of those of house 1A. A post probably belonging to the earlier house occurred adjacent to the northern center post of house 1. The outer wall was marked by 21 posts; 14 of these posts fell on a radius of 9 feet 9 inches from the center of the house. All posts fell between radii of 9 feet and 11 feet from the center of house 1A. The sump, Feature 15, may have obliterated some of the posts. Posts ranged in diameter from 2 to 5 inches and in depth from 2 to 9 inches. Nine were marked by bits of rotten wood and the remainder by dark stains. The house had a vertical outer wall. Several posts falling between radii of 11 feet 6 inches and 13 feet from the center of house 1 cannot be definitely associated with either house. They may represent interior fixture posts for house 1 or earth-bank supports outside the edge of house 1A.

Roof: No data.

Fireplaces: None found. Position of the central firepit would have been the same as that of house 1.

Cache pits: None.

Other features: None.

Fill: House 1A was defined on the basis of the post pattern. The site of the house may have been cleared to make way for house 1.

Remarks: The posts attributed to house 1A may be an architectural feature of house 1. If so, we are in error in postulating the existence of an earlier structure.

House 2.

Shape: Probably round with an approximate diameter of 28 feet.

Entrance: Not found.

Posts: One post mold, 3½ inches in diameter and 10 inches deep, was found at a distance of 14 feet from the center of the firepit. This posthole contained a few fragments of rotted wood. Two post molds were found at distances of 8 feet 6 inches and 18 feet 6 inches from the center of the firepit. These postholes were 3 and 5 inches in diameter and 6 and 10 inches deep. None of the post molds could be identified as that of a center post.

Roof: No data.

Fireplaces: A basin-shaped pit, Feature 16, was the central firepit of the house (pl. 27, *c*).

Cache pits: None.

Other features: None.

Fill: No charcoal was found in the fill of this feature and its unburned condition accounts for the lack of definition. The humus zone was from 6 to 10 inches thick and rested upon a gray refuse-bearing layer from 2 to 6 inches thick. The thinner portion of the layer was the farthest from the firepit. Sterile subsoil was below the gray layer. The firepit was 15 inches below the surface.

REFUSE DEPOSITS

Most of the pottery and other artifacts excavated at the Spain site were recovered from Feature 1, a refuse deposit in excavation unit 1 on the northeastern flank of hummock A (map 6; pl. 26, *b*, *c*). The deposit was an irregular oval in shape, measuring 22 by 36 feet in its greatest dimensions. The refuse itself was from 7 to 9 inches in thickness. The heaviest concentration of refuse was an area measuring roughly 20 by 25 feet in the center of the feature. In the north-south profile the refuse fused with a gray soil zone between the humus and sterile subsoil. The gray layer was found in other areas of the site sometimes associated with refuse. A definite shouldered edge was clearly seen on the eastern side. Approximate limits were defined for all sides of the refuse deposit during the course of the excavations. To a certain extent these limits were arbitrary because the density of the refuse gradually lessened toward the edges of the deposit. The limits were abrupt and vertical in some parts of the feature.

The origin of the deposit is difficult to determine. It could be either a refuse deposit on the flanks of the hummock or a borrow pit filled with refuse. The latter interpretation would be greatly strengthened if a house had been found on the top of hummock A. Tests on other sides of the mound indicate that refuse is present only in the area of Feature 1.

Three layers were present—humus, refuse, and sterile subsoil—a condition which prevailed throughout the site. In areas outside Feature 1 the refuse-bearing layer consisted mostly of a gray soil zone. The humus zone at Feature 1 was from 4 to 6 inches in thickness. The refuse was from 7 to 9 inches thick. Sterile clay subsoil appeared at depths ranging from 14 to 16 inches below surface.

Several 10-foot squares were excavated in the area to the south and west of house 1 (pl. 27, *a*). A refuse deposit was encountered in this area, but it was not as concentrated a deposit as Feature 1. The refuse layer sloped up toward house edge and then thinned out and disappeared. This deposit was from 4 to 8 inches in thickness and was followed to the south for 20 feet without reaching its limits. Features 6, 11, 12, and 14 are irregular concentrations of refuse within the area.

POTTERY

The Spain site yielded 17,977 potsherds, most of which were found in Feature 1, a refuse deposit. The 1,555 rims are discussed below under the descriptions of the various types and varieties. The 16,422 body sherds are divisible into three categories: simple stamped, 78 percent; plain, 2 percent; decorated shoulder, 20 percent.

Simple stamped designates a surface finish characterized by parallel grooves and ridges, probably produced by malleating the soft clay with a grooved, or thong-wrapped, paddle (pls. 30, *j*; 31, *l*) On many sherds the simple stamping is barely discernible as the result of subsequent smoothing. Most of the sherds classed as plain probably represent areas on vessels subjected to an extraordinary amount of smoothing. Miniature vessels, on the other hand, display no traces of simple stamping.

Of the 3,374 sherds representing decorated shoulders, only 1,635 are large enough to permit classification on the basis of design. Among the rims 77 sherds bearing shoulder decoration are present. Of these only 46 are suitable for study. Combining the sherds from the two sources, 1,681 are classifiable as follows: Incised herringbone motif, 764, or 45.3 percent (pls. 29, *b*; 31, *e*, *j*); incised lines in opposition to each other, 662, or 39.4 percent (pls. 29, *f*, *h*, 31, *m*); incised parallel lines oriented vertically, 201, or 12 percent (pls. 30, *j*; 31, *c*, *g*, *h*); punctated, 53, or 3.2 percent (pl. 31, *i*, *k*); incised chevron motif, one, or 0.1 percent. In the description of each pottery type an attempt is made to correlate shoulder decoration with rim decoration.

Iona Ware is represented by 870, or 56 percent, of the rim sherds. Talking Crow Straight Rim, the sole representative of Talking Crow Ware, accounts for 311, or 20 percent, of the rims. Grey Cloud Horizontal-Incised, a type not assigned to a ware, represents 54, or 3.5 percent, of the rims. The remaining 320, or 20.5 percent, are classed as miscellaneous. Of these, one rim is a plain shell-tempered sherd identifiable as Oneota, while another is a cord-marked sherd of Woodland affiliation. The other 318 sherds represent varieties that are not classifiable by types for various reasons.

The types established are based primarily on rim sherds and secondarily on decorated body sherds that could be associated with them. All of the types share the same body form and the same surface finish. The reliance upon rim sherds and the omission of body sherds from the statistical study of the relative popularity of the types follows the trend already established for the Plains by Lehmer (1951, 1954), Smith (1951), and Hurt (1952, 1953, 1954). The reader may wish to consider the types as "rim sherd types" rather than as "pottery types" or "sherd types."

The very nature of most of the pottery from the Plains is the best reason for the selectivity employed. Decoration and other distinctive features are usually limited to the lip and lower rim. Body sherds are usually uniform throughout a given culture complex. Furthermore, most of the rims rise from a sharp bend at the junction with the shoulder and tend to break off there. As a result it is usually impossible to associate the mass of body sherds with the types based on rims. Sherds with decorated shoulders must be treated separately and correlated where possible with rim decoration. The uniformity of the pottery and the diverse origins of many of the sherds found in refuse deposits make the grouping of sherds into lots representing individual vessels an impractical task.

At first it was thought that the bulk of the pottery might be classifiable under the types comprising Wheeler Ware as defined by Hurt (1952, pp. 73–78). A large sample of the pottery was shown to Hurt, who pronounced it too coarse and thick to be Wheeler Ware although it shared similar surface finishes, decorative techniques, and forms. When viewed in photographs without regard to scale the sherds of Wheeler Ware appear to be identical with most of those from the Spain site. However, most of the sherds from the Spain site are thicker and the rims range to greater heights. Furthermore, handles and lugs are more prevalent in the Spain site collection. The term Iona Ware is applied to the pottery from the Spain site. In the comparison below it is apparent that there is considerable overlap in dimensions between the two wares.

	Wheeler Ware (Mm.)	*Iona Ware* (Mm.)
Body thickness	2–6	2–7
Lip thickness	3–13	4–25
Rim height	13–50	13–80

Hurt (personal communication) is convinced that the two wares should be kept separate for the purpose of distributional studies. They may represent contemporary ceramic manifestations signifying the equivalent of "band" differences within a tribe, or the differences may be of temporal significance. At this writing Wheeler Ware seems to extend from northeastern Nebraska into north-central South Dakota, while Iona Ware is found only near the mouth of the White River in south-central South Dakota.

In establishing the types under Wheeler Ware, Hurt relied primarily on decorative designs and on the presence or absence of simple stamping. Rim and lip form were secondary. In his types S-shaped rims were grouped along with straight to slightly flaring rims in a single type, Wheeler Horizontal-Incised Rim, for example. Wheeler Ridged Rim was separated from Wheeler Plain Rim on the basis of the presence or absence of simple stamping on the lower rim.

In the description of Talking Crow Straight Rim (Smith, 1951, p. 36) it was stated, "Typical rims are 6 or 7 cm. high." Hurt (1952, p. 74) took this to mean that the rims range from 6 to 7 cm. in height and did not think he had any sherds of the type. He then proceeded to set up the types, Wheeler Ridged Rim and Wheeler Plain Rim, including many sherds of Talking Crow Straight Rim and other sherds not part of the type. Hurt's type, Wheeler Horizontal-Incised Rim, includes sherds of Grey Cloud Horizontal-Incised (Smith, MS.) as well as some with S-shaped rims.

In dealing with the pottery from the Spain site we have relegated all S-shaped rims to one type, Iona S-Rim, with subvarieties under it based on decorative designs. The types Talking Crow Straight Rim and Grey Cloud Horizontal-Incised are set aside on the basis of their identity with previously described sherds from the Talking Crow site. The remaining sherds are typed on the basis of the form of the lip and the decorative designs under the headings: Iona Indented, Iona Diagonal-Incised, and Iona Horizontal-Incised.

Tables 1 and 2 show the two methods of typing as applied to the pottery from the Wheeler component and the Spain site. In both tables unclassified sherds are omitted. This comparison will make it possible for others to make use of either system in dealing with similar pottery.

TABLE 1.—*Pottery types at the Spain site*

Types as defined by Smith	Types as defined by Hurt							
	Wheeler Ridged	Wheeler Plain	Wheeler Incised Tri.	Wheeler Hor. Incised	Wheeler Deep Trailed	Absent in Wheeler	Total	Percent
Iona Indented	115	213					328	26.5
Iona Diagonal-Incised			78		4		82	6.6
Iona Horizontal-Incised				311			311	25.2
Iona S-Rim A				77			77	6.2
Iona S-Rim B					50		50	4.1
Iona S-Rim C			14				14	1.1
Iona S-Rim D						8	8	.7
Talking Crow Straight Rim	107	204					311	25.2
Grey Cloud Horizontal-Incised				54			54	4.4
Total	222	417	92	442	54	8	1,235	
Percent	17.9	33.8	7.4	35.8	4.4	.7		

TABLE 2.—*Pottery types in the Wheeler component*

Types as defined by Smith	Types as defined by Hurt						
	Wheeler Ridged	Wheeler Plain	Wheeler Incised Tri.	Wheeler Hor. Incised	Wheeler Deep Trailed	Total	Percent
Iona Indented	30	32				62	45.6
Iona Diagonal-Incised					7	7	5.2
Iona Horizontal-Incised				15		15	11.0
Iona S-Rim A				3		3	2.2
Iona S-Rim B			8			8	5.9
Iona S-Rim C					4	4	2.9
Talking Crow Straight Rim	15	21				36	26.5
Grey Cloud Horizontal—Incised				1		1	.7
Total	45	53	8	19	11	136	
Percent	18.1	34	5.9	13.9	8.2		

IONA WARE

Total: 870 rims.

Paste: Method of manufacture: Paddle and anvil with no evidence of coiling.

Temper: Sparsely distributed grit of heterogeneous composition, largely quartz but with some particles of feldspar and mica present. Texture: Medium and flaky. Structure: Laminated. Sherds split readily parallel to the surface. Edges crumble easily. Color: Light buff and brown earth tones grading into black. A few sherds are orange in color. The cores of most sherds are slightly darker than the surfaces.

Form: Rim: Ranges from flaring to straight, grading into S-shaped. A few collared rims not assigned to types are present. All rims rise vertically from a constricted area above a rounded shoulder. Lip: Flattened or rounded, usually considerably thicker than the lower rim in the form of the letter T or the inverted letter L. Thickened by the addition of a fillet on the inside or outside, or by folding the lip down on the outside and welding it in place. Appendages: Two strap handles reaching from lip to shoulder are often present. Loop handles are rare. Two or more small pointed lugs per vessel, projecting horizontally from the lip are rare. Body: Globular with rounded shoulders. Base: Rounded. Lip thickness: 4 to 25 mm., mean 9 mm., most of the sherds falling between 5 and 16 mm. Body thickness at shoulder: 2 to 7 mm., mean 5 mm., most of the sherds falling between 4 and 5 mm. Rim height: 13 to 80 mm., mean 38 mm., most of the sherds falling between 26 and 56 mm.

Surface finish: The exterior surface is covered with simple stamping. Subsequent smoothing often all but obliterates the impressions. Most of the plain sherds probably represent smoothed areas on otherwise simple-stamped vessels.

Decoration: Varies with the component types. Characteristic of the ware is the presence of simple diagonal notches or herringbone motifs formed by notching on the lips. Lower rims may be plain, simple stamped, horizontally incised, or diagonally incised in the form of triangles or herringbone motifs. Fifty-seven, or 74.1 percent, of all the rims displaying decorated shoulders are assignable to Iona Ware. The designs are as follows: Opposed lines, 9; herringbone, 19; vertical parallel lines, 1; punctated, 1; indeterminate, 27.

Component types: Iona Indented, Iona Horizontal-Incised, Iona Diagonal-Incised, Iona S-Rim.

Iona Indented.

Total: 328 rims, 21.1 percent (see fig. 4, *a–k* and pl. 29, *a–d*).

Form: Rim: Flaring, grading into straight, rising from a constricted area above the shoulders. Height, 18 to 56 mm.; mean, 36 mm. Most specimens are from 26 to 47 mm. in height. Lip: Thickened, usually T-shaped or in the form of an inverted letter L, flattened or rounded. Thickened by the addition of a fillet on the top, the inside, or the outside, or by folding the lip downward and welding it. Appendages: Four strap handles and one small lug. Some strap handles are 80 mm. wide. One large handle must have covered at least one-third of the circumference of the rim. In fragmentary condition it measures more than 100 mm. in width (pl. 29, *d*). Thickness: Lips range from 5 to 25 mm. with most of them falling between 9 and 16 mm., mean, 11.5 mm.; body thickness at the shoulder ranges from 2 to 7 mm. with most of the sherds falling between 4 and 5 mm., mean, 4.5 mm.

Decoration: Limited to lips, appendages, and shoulders. Lips are indented by impressing or incising with a sharp tool. Indentations grade from incised lines through notches to punctates. The elongate lines are arranged diagonally either to the right or left or transversely on the lip. On 64 percent of the lips the lines are arranged in continuous herringbone motifs, often repeated in parallel combinations on the wider lips. On 30 percent of the lips simple notches occur. Punctating in single rows, or rarely double and triple rows, occurs on 6 percent. Of the 4 strap handles present, 1 is plain, 1 is notched, and 2 bear herringbone motifs. One small projecting lug is plain. The lower rim is plain on 65 percent, simple stamped on 35 percent. Of the 23 large rims showing shoulder decoration, 13 bear incised herringbone motifs, 2 bear opposed diagonal lines of incising, 1 bears parallel incised lines, 1 is punctuated, and 6, bearing incised lines, are inde-

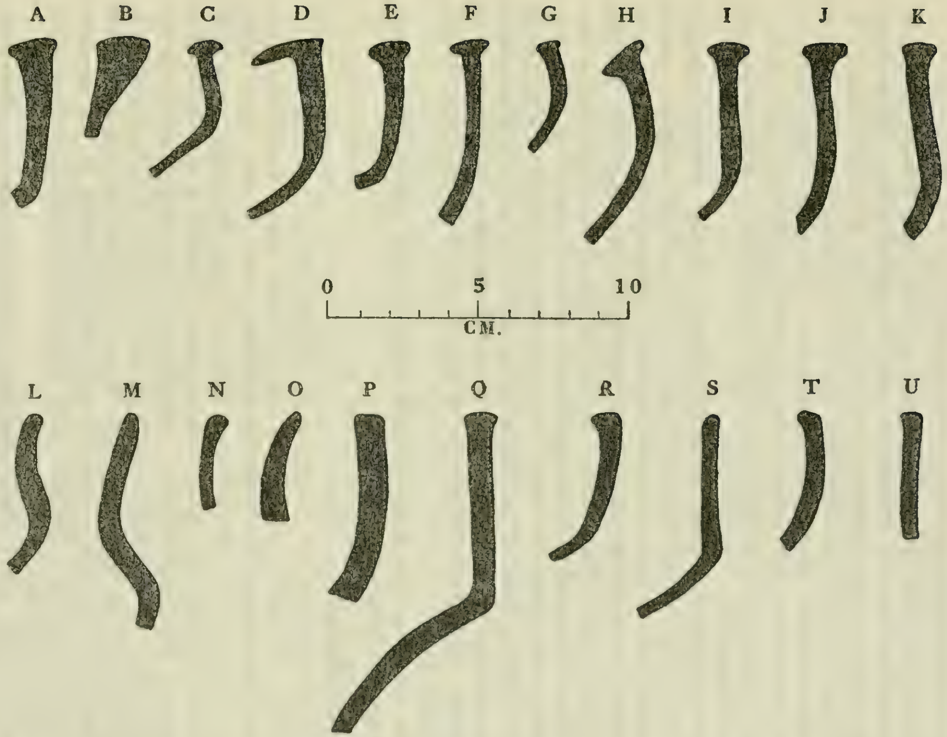


FIGURE 4.—Profiles of pottery rims: *A–K*, Flaring and Straight rims with L- and T-shaped lips. *L–O*, S-shaped rims. *P–U*, Straight and slightly flaring rims with thin or slightly thickened lips. *A–D*, Iona Indented; *E–H*, Iona Horizontal-Incised; *I–K*, Iona Diagonal-Incised; *L–O*, Iona S-Rim; *P–R*, Talking Crow Straight rim; *S–U*, Grey Cloud Horizontal-Incised.

terminate as to pattern. Among the rims bearing shoulder decoration the type is represented by 29.9 percent.

Relationships: Sherds with thinner lips grade into Talking Crow Straight Rim. Those with lips of moderate thickness suggest, but are not identical with, Stanley Tool Impressed (Lehmer, 1954). The type is identical with many of the sherds assigned to Wheeler Plain Rim and Wheeler Ridged Rim by Hurt (1952).

Iona Diagonal-Incised.

Total: 82 rims, 5.3 percent (see fig. 4, i–k; pl. 30, *e–g*).

Form: Rim: Straight, grading into flaring, rising from a constricted area above the shoulders. Height, 23 to 51 mm., mean, 38 mm. Most of the specimens are from 39 to 47 mm. in height. Lip: Thickened, usually T-shaped or in the form of an inverted letter L, formed in the same way as those on Iona Indented. Appendages: None. Thickness: Lips range from 4 to 20 mm. with most of them falling between 5 and 10 mm., mean, 8 mm. Body thickness at the shoulder could be measured on only two sherds, each 5 mm. thick.

Decoration: Lips, lower rims, and shoulders are decorated. Lips are indented by impressing or incising with a sharp tool as on Iona Indented. On 25 percent the herringbone motif is present. Simple notches occur on 56 percent. Punctating is limited to a little more than 9 percent. The lips of about 9 percent are plain. Incised or trailed lines arranged in contiguous triangular plats in opposition to each other occur on 93 percent of the lower rims. On about 2 percent triangular motifs are separated by horizontal lines. The herringbone motif occurs on about 5 percent of the sherds. Six large rims with decorated shoulders, indeterminate in design, account for 7.8 percent of all the sherds so decorated in the collection.

Relationship: The type is similar to Wheeler Incised Triangle Rim (Hurt, 1952), but lacks the S-shaped rim.

Iona Horizontal-Incised.

Total: 311 rims, 20 percent (see fig. 4, *e–h*; pl. 29, *e–h*).

Form: Rim: Straight grading into flaring, rising from a constricted area above the shoulders. Height, 13 to 60 mm., mean, 35 mm. Most of the specimens are from 20 to 47 mm. in height. Lip: Thickened, usually T-shaped or in the form of an inverted letter L, formed in the same way as those on Iona Indented Rim. Appendages: Two strap handles and one small lug. The handles measure 35 and 37 mm. in width, respectively. Thickness: Lips range from 5 to 22 mm. with most of them falling between 7 and 13 mm., mean, 10 mm.; body thickness at the shoulder ranges from 3 to 7 mm. with most of the sherds falling between 4 and 5 mm., mean, 5 mm.

Decoration: Lips, lower rims, appendages, and shoulders are decorated. Lips are indented by impressing or incising with a sharp tool as on Iona Indented. On almost 51 percent the herringbone motif is present. Simple notches occur on about 43 percent. Punctating is limited to a little more than 5 percent. Of the 2 strap handles present, 1 bears the herringbone motif and the other parallel lines of notches. The only lug present is plain. All of the sherds bear from 3 to 11 parallel lines of trailing or incising on the lower rim from just below the lip to just above the shoulder. On 63 percent the decoration is superimposed on simple stamping. Of the 24 large sherds showing shoulder decoration, 7 bear opposed diagonal lines of incising, 5 bear incised herringbone motifs, and 12 are incised with lines in indeterminate patterns. The type is represented by 31.2 percent of all the rims so decorated.

Relationships: Sherds with thinner lips grade into Grey Cloud Horizontal-Incised. Sherds with thick lips are almost identical with Wheeler Horizontal Incised (Hurt, 1952) except for the fact that S-shaped rims are included in the latter type.

Iona S-Rim.

Total: 149 rims, 9.6 percent (see fig. 4, *l–o;* pl. 30, *a–d*).

Form: Rim: S-shaped, flaring outward and curving back inward, rising from a constricted area above the shoulders. Height, 30 to 80 mm., mean, 44 mm. Most of the specimens fall between 35 and 55 mm. Lips: Usually unthickened (67 percent), less frequently T-shaped (24 percent), and rarely in the form of an inverted letter L (9 percent). Appendages: None. Thickness: Lips range from 3 to 14 mm. with most of them falling between 5 and 10 mm., mean, 7 mm. Body thickness at the shoulder could be measured on only two sherds, each 5 mm. thick.

Decoration: On lips, lower rims, and shoulders. Lips on 67 percent are notched, usually as a band of diagonal lines, sometimes as groups of opposed diagonal lines in triangular plats. On 14 percent the herringbone motif occurs. Punctating occurs on 15 percent. Lips of 8 percent are plain. Of the four large rims showing incised decoration on the shoulders, one bears the herringbone motif while the others are indeterminate. The type is represented by 5.2 percent of the rims bearing decoration on the shoulder. Variety A, 77 sherds, bears a series of horizontally incised or trailed parallel lines resembling those found on Iona Horizontal-Incised (pl. 30, *a*). Variety B, 50 sherds, bears repeated herringbone motifs (pl. 30, *b*). Variety C, 14 sherds, bears diagonally incised or trailed lines arranged in opposition to each other in triangular plats similar to those on Iona Diagonal-Incised (pl. 30, *c*). Variety D, 8 sherds, bears no decoration on the lower rim (pl. 30, *d*).

Relationship: Related to the S-shaped rims included by Hurt (1952) in his Wheeler Incised Triangle Rim, and some of Wheeler Horizontal-Incised Rim and Wheeler Deep-Trailed Rim.

TALKING CROW WARE

Talking Crow Straight Rim

Total: 311 rims, 20 percent (see fig. 4, *p–r*; pl. 30, *h–j*).

N. B. This description pertains to the type as it occurs at the Spain site. See the statement below under Remarks for a comparison with the data from the Talking Crow site. The paste does not differ from Iona Ware.

Form: Straight to slightly flaring rims rise vertically from a bottlelike neck at the junction with the shoulder. The higher rims often flare slightly from just below the lip. Rims range in height from 14 to 57 mm. with the majority falling between 23 and 32 mm. The mean height is 35 mm. The lips are flattened, rounded in rare instances, and are usually slightly thickened from compression of the paste in the process of decoration. Lip thickness ranges from 3 to 12 mm. with the majority falling between 6 and 10 mm. The mean thickness is 7 mm. Too few plain lips are present for comparison with decorated lips in regard to thickness. No appendages are identifiable with the type. The bodies of the vessels are globular with rounded shoulders and bases. Thickness at the shoulder ranges from 4 to 10 mm. with the majority falling between 5 and 7 mm. The mean thickness is 6 mm.

Surface finish: Simple-stamped body. Lower rims are simple stamped on 66 percent and smoothed to a plain surface on 34 percent of the sherds. All rims with plain lips are simple stamped on the lower rims.

Decoration:

Limited to lips and shoulders. On the lips indenting, in the form of transverse notching to the right or left, occurs on 68.8 percent. Continuous V's, one inside of the other in the form of a herringbone motif, occur on 7.2 percent. Punctating, almost invariably in a single line, occurs on 17.8 percent. On 1.7 percent the tip of the finger was used to indent the lips. Plain lips occur on 4.5 percent of the sherds. No sherds bear indenting on the interior surface. One is notched and another is punctated below the lip on the exterior.

Decoration is found on the shoulders of only seven large rims. Opposed lines occur on 2 sherds, the herringbone motif on 2, and parallel vertical lines on 3 (pl. 30, *j*). The type contributes only 9.1 percent to the total number of rims bearing shoulder decoration in the collection from the site.

Relationships: The type is identical with the majority of the pottery bearing the same name at the Talking Crow site and with most of the sherds designated as Category C by Cooper (1949). Fifteen of the sherds classified as Wheeler Ridged and 21 classified as Wheeler Plain by Hurt (1952, pp. 73–75) are indistinguishable from the type as described. The type grades into Iona Indented.

Remarks: In comparison with pottery of the same type from the Talking Crow site relatively minor differences are discernible. The mean of the rim height is 7 mm. higher at Talking Crow. The mean of the lip thickness is the same at both sites. The proportions of simple stamped and plain lower rims are about the same. Appendages are common at Talking Crow but are absent in the sample from the Spain site. There are more plain lips at Talking Crow. The relative popularities of the various decorative techniques used on the lips are about the same but differ in actual percentages. Indentations on the interior of the rim are absent in the sample from the Spain site. Too few sherds displaying decorated shoulders occur in the sample from the Spain site for proper comparison, but it is clear that proportionately less of the type was so decorated than at Talking Crow. If a split is ever to be made in the type, interior indenting and plain lips might be the basic sorting criteria for establishing separate types.

UNNAMED WARE

Grey Cloud Horizontal-Incised

Total: 54 rims, 3.5 percent (see fig. 4, *s–u*; pl. 30, *k–m*).

N. B. This description pertains to the type as it occurs at the Spain site. See the statement below under Remarks for a comparison with the data from the Talking Crow site. The paste does not differ from Iona Ware.

Form: Rims are low and range from straight to slightly flaring, rising abruptly from rounded shoulders. Rims range in height from 12 to 42 mm. with the majority falling between 20 and 38 mm. The mean height is 29 mm. Lips are flattened and thickened slightly as a result of the pressure applied in decorating the top. Lips range in thickness from 4 to 9 mm. with the majority falling between 5 and 7 mm. The mean thickness is 6 mm. No appendages are present. The bodies of the vessels are globular with rounded shoulders and bases. Thickness at the shoulder ranges from 3 to 5 mm. with the majority of the sherds falling between 4 and 5 mm. The mean thickness is 4 mm.

Surface finish: Simple stamped on all sherds retaining part of the shoulder. About 50 percent of the sherds display traces of vertically oriented simple stamping as an original finish beneath the horizontally incised lines.

Decoration: Always on the lower rims, usually on the lips, occasionally on the shoulders. All specimens bear from 4 to 7 lines of horizontal incising or trailing encircling the vessels from the lip to the shoulder. Of the rims large enough to show the shoulder 4 bear incised or trailed lines. Three have opposed lines, one the herringbone motif. The type contributes only 5.2 percent to the total number of rims bearing shoulder decoration in the collection. The treatment of the lips permits the sorting of the sherds into two varieties. Variety A, represented by 52 sherds, or 96.5 percent, is characterized by lips bearing indentations on the top in the form of transverse notches (pl. 30, *k–m*), 81 percent, or punctates, 19 percent. In a few instances the notches are arranged in the form of a herringbone motif. Variety B, represented by two sherds, or 2.5 percent, is characterized by plain lips.

Relationships: Identical with some of the sherds designated as category B by Cooper (1949, pp. 304–306; fig. 73, 10–12) and with at least one of the sherds assigned to the type Wheeler Horizontal-Incised by Hurt (1952, p. 76). A sample of the type Nordvold Horizontal-Incised (Tolstoy, MS.) derived from Strong's excavations at the Rygh site (Strong, 1940, pp. 378–380) differs in the occurrence of S-shaped rims along with flaring rims and in the superposition of the incised lines on vertical brush marks. Grey Cloud Horizontal-Incised grades into Iona Horizontal-Incised.

Remarks: In comparison with pottery of the same type from the Talking Crow site some differences are discernible. Rim height and lip thickness are about the same. Shoulders average 1.5 mm. thinner at the Spain site. More sherds display simple stamping on the lower rim at the Spain site. No sherds bear cord marking and there are no appendages at the Spain site. Varieties A and B occur at both sites. At the Talking Crow site two more varieties marked by indentation just below the lip on the inside (C) or on the outside (D) are present. Too few sherds displaying decorated shoulders occur in the sample from the Spain site for proper comparison, but it is clear that proportionately less of the type was so decorated than at Talking Crow. If it becomes necessary to subdivide the type and establish others the varieties based on lip treatment may be important sorting criteria.

MISCELLANEOUS

Total: 320 rims, 20.5 percent.

In the course of sorting the pottery into types, 239 sherds were set aside as not classifiable. Ninety-eight are sherds bearing decoration on the lower rim but with the lips missing. Ninety-five of these bear horizontally incised lines typical of both Iona Horizontal-Incised and Grey Cloud Horizontal-Incised. Three bear traces of diagonally oriented lines but so little of the rim is present that it is impossible to determine whether they belong to Iona Diagonal-Incised or to Iona S-Rim. One hundred forty-one indented rims are not classifiable because they represent only the lips of vessels or because they are too small, too fragmentary, or too aberrant to be placed in one or more of the established types.

Twenty-seven handles could not be attributed to the types based on rims. Twenty-six are strap handles. One is plain. Nine bear incised lines arranged vertically. Four have elongate indentations on them. Twelve bear incised herringbone motifs. One plain loop handle mounted on a straight rim with an incised shoulder is present (pl. 31, *e*).

Two indented rims have wedge-shaped profiles with concave interior surfaces. Each bears incised herringbone motifs (pl. 31, *a*). Twenty-six plain rims, 9 with lips averaging 9 mm. and 17 with lips averaging 7 mm. in thickness, are present. They range from straight to flaring in profile (pl. 31, *c*, *d*).

Four collared rims are present. In profile they resemble S-rims except for an abrupt bend at the point of greatest diameter. One is punctated on the lip and plain below. Three bear incised lines arranged diagonally in triangular plats (pl. 31, *b*). Two straight rims with thin lips bear punctates on the lower rim superimposed on simple stamping.

Eighteen miniature vessels are represented. Seven are plain. Eleven bear indentations on the lip or crudely executed incised lines on the shoulder.

One rim with an indented lip 6 mm. thick is shell tempered. The rim rises vertically 32 mm. above an abrupt shoulder (pl. 31, *f*). The rim sherd and a shell-tempered shoulder sherd (pl. 31, *g*) resemble the Oneota pottery from the Leary site in southeastern Nebraska (Hill and Wedel, 1936, pls. III–V).

One rim (pl. 35, *i*) is identifiable as Woodland in cultural affiliation, indicating, along with some of the projectile points, that there was a brief occupation by people of this tradition. The sherd is small, measuring 15 by 28 mm. The paste is coarse and grit tempered. The rim is straight terminating in a flat lip 6 mm. thick. The exterior surface and the lip are covered with cord marking. Below the lip is a horizontal band composed of three cord-impressed lines. The specimen is indistinguishable from Ellis Cord Impressed (Hurt, 1952, pp. 66–67; figs. 15, 18, design IIA), and Feye Cord Roughened (Kivett, 1952, p. 55, pl. 27, A: 5, 6, 8; B).

CHIPPED-STONE ARTIFACTS

PROJECTILE POINTS

Eighty-two specimens of chipped stone are classifiable as projectile points in various stages of manufacture. They are composed of a wide variety of siliceous rocks but Bijou Hills quartzite is absent. Seven fragments broken from the tips are not classifiable. Thirteen specimens, irregular in outline and bearing rough scars from percussion flaking, are classifiable as blanks and rejects. The remaining 62 specimens are classifiable on the basis of shape of the blade, the contour of the base, and the presence or absence of notches and stems. Triangular points have straight sides. Trianguloid points have convex sides. Lanceolate points have parallel sides near the base, then taper to the tip.

Triangular, straight base.—Represented by 16 specimens (pl. 32, *upper*, *1–5*). Dimensions: Length, 18 to 27 mm.; width, 11 to 19 mm.; thickness, 2 to 5 mm. One fragment, 22 mm. long and 19 mm. wide, must represent a point with an original length of approximately 30 mm.

Triangular, concave base.—Represented by 28 specimens (pl. 32, *upper*, *6–14*). Two have serrated edges. Dimensions: Length, 17 to 31 mm.; width, 13 to 17 mm.; thickness, 2 to 4 mm.

Triangular, concave base, side notched.—Represented by three points (pl. 32, *upper*, *15*). Two have two notches, one on each side, about one-third of the distance up from the base. One, probably unfinished, has one notch. Dimensions: Length, 19 to 22 mm.; width, 13 to 17 mm.; thickness, 3 to 4 mm.

Trianguloid, straight base.—Represented by two specimens (pl. 32, *upper*, *16*). Both are nearly equilateral in contrast to all other points from the site. Dimensions, respectively: Length, 13 and 14 mm.; width, 13 and 14 mm.; thickness, 2.5 and 2.7 mm.

Trianguloid, concave base.—Represented by 2 specimens, 1 being complete (pl. 32, *upper*, *17*). The complete specimen is 22 mm. long. Dimensions, respectively: Width, 13 and 14 mm.; thickness, 3 and 3.5 mm.

Trianguloid, straight base, side notched.—Represented by one specimen with a small portion of the tip missing (pl. 35, *a*). The specimen has larger notches than any of the other points in the site. Dimensions: Length, 25 mm., plus; width above notches, 15 mm.; width below notches, 14 mm.; width at notches, 8 mm.; distance from base to notches, 5 mm.; thickness, 3 mm. This specimen may pertain to a Woodland occupation.

Trianguloid, straight base, corner notched.—Represented by one specimen with part of the blade missing (pl. 35, *c*). The remaining corner notch resembles a keyhole in shape. The original length and width must have approached 30 and 20 mm. respectively. Dimensions of fragment: Length, 25 mm.; width of base, 13 mm.; width of notch, 2 mm. This specimen may pertain to a Woodland occupation.

Trianguloid, convex base, side notched.—Represented by one crudely chipped specimen with the tip missing (pl. 35, *b*). There are two broad shallow side notches near the base. The base has been damaged but seems to have been convex originally. Dimensions: Length, 32 mm., plus; width above notches, 21 mm.; width at stem, 15 mm.; width of notches, 10 mm.; thickness, 8 mm. This specimen may pertain to a Woodland occupation.

Trianguloid, large.—Represented by four specimens, two with straight bases, one with a convex base, and one with a concave base (pl. 35, *d–f*). All of them are cruder and thicker than other points in the collection. Dimensions: Length, 31 to 38 mm.; width, 22 to 25 mm.; thickness, 4.5 to 6 mm.

Lanceolate, straight base.—Represented by three basal fragments. One specimen (pl. 35, *h*) composed of tan jasper bears parallel flake scars running horizontally across the blade suggestive of one of the varieties usually called Yuma points. There is no basal grinding. What appears to be an offset on the left side is, in reality, an accidental break. The specimen is 5 mm. thick, 17 mm. wide. It was found within 8 inches of the surface in excavation unit 2. The other two lanceolate specimens are composed of chalcedony and are more crudely chipped (pl. 35, *g*). The latter two may pertain to a Woodland occupation.

Lanceolate, convex base.—Represented by one crude specimen with the tip missing (pl. 32, *upper*, *18*). It is planoconvex in cross section with the flat side representing the surface of the original flake. Dimensions: Length, 24 mm., plus; width, 12 mm.; thickness, 3.2 mm. The specimen may not have been finished.

Blanks and rejects.—Thirteen specimens apparently represent unfinished projectile points. All have rough surfaces and percussion flake scars. One is crudely side notched and has a concave base. Dimensions: Length, 22 to 42 mm.; width, 12 to 27 mm.; thickness, 4 to 10 mm.

Fragments.—Seven fragments of triangular and trianguloid points are not classifiable.

SCRAPERS

A total of 137 planoconvex end scrapers are represented in the collection of chipped-stone artifacts from the Spain site. They are made of a wide variety of siliceous materials but only one is made of Bijou Hills quartzite. The flat side which forms the bottom of the implement is the plane of percussion formed when the original flake was struck from the core. In outline the scrapers range from triangular to ovoid, the working edge being at the thicker and broader end. End scrapers are divisible into three groups based on secondary chipping.

Variety 1.—Two of the end scrapers are distinguished by the presence of carefully controlled pressure flaking around the edges and over the entire convex surface (pl. 32, *upper, 19, 20*). Dimensions: Length, both are 24 mm.; width of working end, 18 and 15 mm. respectively; thickness, 10 and 6 mm. respectively.

Variety 2.—Forty-two specimens, including one made of Bijou Hills quartzite, are marked by the presence of pressure flaking scars on one end and side, or all the way around (pl. 32, *upper, 21–24*). The surface of the convex side of the scraper shows the scars of the primary flaking or the unmodified surface of the nodule. Dimensions: Length ranges from 21 to 42 mm.; width of working end ranges from 15 to 29 mm.; thickness ranges from 4 to 15 mm.

Variety 3.—Sixty-five of the end scrapers show pressure flaking only at the working end. The remainder of the surface shows only primary flaking scars (pl. 32, *upper, 25–28*). Dimensions: Length ranges from 21 to 25 mm.; width ranges from 12 to 35 mm.; thickness ranges from 4 to 13.5 mm.

Elliptical blades.—Two large blades composed of Bijou Hills quartzite were found together on the floor of house 1 (pl. 27, *b*). Elliptical in outline and covered with scars from percussion flaking, they suggest the large hide scrapers favored by the Historic Pawnee (Wedel, 1936, p. 76; Strong, 1935, pl. 1, *a*, *d*), but lack the blunt edge for holding in the hand (pl. 33, *d*). Both have sharp edges all the way around. One has been retouched to form a keener edge. Dimensions: Length, 173 and 180 mm.; width, 115 and 109 mm.; thickness, both 26 mm.

Side scrapers.—Seventy-one chipped stone artifacts are side scrapers, each with a single working edge made of rough irregular flakes modified by pressure flaking (pls. 32, *upper, 29; 32, lower 1*). Dimensions: Length ranges from 33 to 96 mm.; width ranges from 15 to 61 mm.; thickness ranges from 5 to 16 mm.

KNIVES

Knives are represented by 156 chipped-stone specimens. Bijou Hills quartzite was used in the manufacture of 75, Badlands chalcedony in 40, various kinds of chert in 27, and red to black quartzite in 14. Badlands chalcedony is the only substance represented in single-edged knives. It is rare in the other categories. Knives, in contrast to projectile points, are larger, thicker, and more crudely fashioned.

Single-edged knives.—The so-called Badlands knife is represented by 25 specimens of plate chalcedony. It is impossible to distinguish broken pieces from whole knives, because chipping is limited to one edge of an irregular plate. Most of the specimens are somewhat rectangular in form (pl. 32, *lower, 2*). Dimensions: Length, 12 to 92 mm.; width, 22 to 75 mm.; thickness, 2 to 8 mm.

Lanceolate.—Twenty-nine lanceolate blades, 3 with straight bases and 6 with convex bases, are present (pl. 32, *lower*, *3–6*). Three specimens are complete; 26 are fragmentary. The complete specimens have the following ranges in dimension: Length, 63 to 117 mm.; width, 18 to 46 mm.; thickness, 7 to 13 mm.

Crescent-shaped.—Four knives, 2 complete and 2 fragmentary, have 1 convex edge and 1 straight edge. Both extremities are rounded (pl. 32, *lower*, 7). Dimensions of the complete specimens. Length, 104 and 105 mm.; width, 27 and 33 mm.; thickness, both 9 mm.

Ovate.—Twenty-two knives, 8 complete and 14 fragmentary, are ovate in form. One has a straight base; the rest have convex bases (pl. 32, *lower*, *8–10*). Dimensions of the complete specimens: Length, 47 to 104 mm.; width, 22 to 44 mm.; thickness, 8 to 14 mm.

Triangular.—Seven triangular knives are represented by 5 complete and 2 fragmentary specimens; 4 have straight bases; 3 have convex bases (pl. 32, *lower*, *11*, *12*). Dimensions: Length, 52 to 92 mm.; width, 28 to 41 mm.; thickness, 7 to 12 mm.

Lozenge-shaped.—Two knife blades taper in two directions to points from a broad midsection (pl. 32, *lower*, *13*). The edges of one are alternately beveled. Dimensions: Length, 59 and 81 mm.; width, 32 and 36 mm.; thickness, both 9 mm.

Flake knives.—Twenty-two flakes have secondary chipping on two edges. Their forms are irregular, seemingly dictated by the shape of the original flake (pl. 32, *lower*, *14–15*). Nine complete specimens have the following range in dimensions: Length, 27 to 77 mm.; width, 14 to 48 mm.; thickness, 4 to 15 mm.

Fragmentary knives.—Forty-five fragments of knife blades are not classifiable. Midsections of blades are represented by 24, convex basal sections by 8, and pointed tips by 13. Most of the fragments were probably broken from lanceolate and ovate blades. One tip is of the alternately beveled variety. One convex base flares slightly where it had been broken from the blade, suggesting a stemmed knife.

DRILLS

Drills are represented by 11 of the chipped-stone artifacts. One is made of plate chalcedony and has slightly convex parallel sides tapering on one end to a projecting point (pl. 33, *a*). The edges of the body and the entire projecting shaft are marked by pressure flaking, but the flat sides of the body are unworked. Dimensions: Length, 71 mm.; width at base, 22 mm.; width at tip, 4 mm.; length of tapered tip, 28 mm.; thickness, 7 mm. Another similar drill is made of Bijou Hills quartzite. It is broken, but one straight side and a shouldered tapered point remain. Dimensions: Length of fragment, 81 mm.; width of fragment, 38 mm.; thickness, 8 mm. Three drills are triangular in outline with a slight projection at the apex. They are crudely chipped and somewhat asymmetrical. Dimensions: Length, 22, 28, and 33 mm.; width, 17, 18, and 23 mm.; thickness, 5, 6, and 8 mm. One drill is represented by the parallel-sided shaft and tip; the base is missing (pl. 33, *b*). Dimensions: Length of fragment, 41 mm.; width, 9 mm.; thickness, 6 mm. One drill is made of a thin flake which tapers at one end to a sharp point. The flat surfaces are unworked, but the edges are pressure flaked. Dimensions: Length, 40 mm.; width, 16 mm.; thickness, 3 mm. Two fragments have broad rectangular bases and taper toward the other end. The drill shafts are missing (pl. 33, *c*). Dimensions: Length of fragments, 18 and 23 mm.; width of both, 15 mm.; thickness, 3 and 5 mm. One tapered fragment of chipped stone may be a fragment of a drill shaft; both tip and base are missing. Dimensions: Length of fragment, 32 mm.; width, 17 mm. tapering to 6 mm.; thickness, 6 mm.

MISCELLANEOUS CHIPPED STONE

Thousands of chips and flakes are present. Sixty-three specimens show considerable retouching but defy further classification. Four specimens are identifiable as cores from which flakes had been removed. Twenty-nine pieces of fractured quartz may have been derived from broken hammerstones. Nine pieces of petrified wood are present. One side scraper is composed of this substance.

GROUND-STONE ARTIFACTS

SHAFT SMOOTHERS

Seventy-one grooved shaft smoothers are composed of fine-grained light buff, or rarely dark-brown, sandstone. All range in form from rectanguloid to loaf shape with square or rounded ends. Thirty-three bear a single U-shaped groove running longitudinally down the center of one flat side. The edges away from the groove are rounded and smoothed (pl. 33, *e*, *g*, *h*). Evidence of secondary use as simple abrading stones is in the presence of specimens with the groove nearly obliterated or with wear on other surfaces. One complete specimen bears traces of red ocher on the side opposite the groove and measures 69 mm. in length, 24 mm. in width, and 14 mm. in thickness. Fragmentary specimens yield the following dimensions: Length, 19 to 97 mm.; width, 15 to 44 mm.; thickness, 12 to 34 mm.

Thirty-eight other shaft smoothers have additional U-shaped or V-shaped grooves on one or more sides or at the ends (pl. 33, *f*). In all other respects they resemble the single-grooved variety. In all probability they were used secondarily for the grinding of awls and other bone implements. Dimensions: Length, 17 to 75 mm.; width, 18 to 42 mm.; thickness, 8 to 30 mm.

MISCELLANEOUS ABRADERS

Four specimens of irregular shape do not fall into the shaft smoother category. Two have narrow grooves, in one case going around the curved end of the specimen. Another has 3 flat sides, 1 shallow grooved side, and 1 rough side. The fourth specimen is a rough piece of sandstone with two shallow grooves forming a cross in the center of a flat side. Dimensions: 16×22 mm.; 17×20 mm.; 11×24 mm.; 39×39 mm.

Nine abraders made of scoria are irregular in shape and have one or more smoothed surfaces. None is grooved. One is roughly spherical in shape being 63 mm. in diameter (pl. 33, *j*). Dimensions: Length, 22 to 57 mm.; width, 15 to 42 mm.; thickness, 10 to 24 mm.

Plain abraders are represented by 50 specimens having one or more surfaces flattened and smoothed from use (pl. 33, *i*). Some are made of sandstone and others of weathered pieces of Bijou Hills quartzite. The latter specimens are completely unmodified except for the worn surfaces. Sandstone abraders often have a roughly rectangular form. Some show traces of red ocher and other pigments on their surfaces. Dimensions: Length, 18 to 127 mm.; width, 14 to 93 mm.; thickness, 8 to 46 mm.

GROOVED AX

One fully grooved ax composed of a mottled, black, dioritic rock was found outside the southern edge of house 1 (pl. 35, *j*). Most of the surface displays careful polishing. Some pecking still shows in the groove on one side and secondary use as a hammer is indicated by the scarred surface of the rounded butt. The blade tapers forward of the groove to a slightly rounded bit which bears several nicks from use. The upper and lower edges are flattened. Dimensions: Length, 106 mm.; width in front of groove, 65 mm.; width at groove, 51 mm.; width behind groove, 55 mm.; width of groove, 23 mm.; depth of groove, 4 to 5 mm.; distance from bit to groove, 67 mm.; thickness, 29 mm. Weight: 322 grams. The specimen may pertain to a Woodland occupation.

SMOKING PIPE

A miniature smoking pipe of red shale measuring about 1 inch in length is present (pl. 34, *a*). The specimen is of the so-called "Siouan" type with projecting celtlike prow, barrel-shaped bowl, and cylindrical receptacle for the stem. The under surface is flattened and the holes for the smoking cavity and stem are biconical. The rim of the recess for the stem is broken away, but the remains of a transverse loop, or perforated lug, are discernible on the top behind the bowl. In all probability a piece of cord or sinew was passed through the hole and then around the stem to keep it in place. The specimen resembles somewhat a small elbow pipe from the Gray-Wolfe site in Nebraska (Dunlevy, 1936, p. 193). The latter specimen is described as being a little more than an inch in length and bearing a small loop on the upper surface near the stem hole. It differs in that no prow is present. In contrast to the fine finish on the Gray-Wolfe specimen, the one from the Spain site bears numerous scars from abrasion not obliterated by the final smoothing. Dimensions: Length, 28 mm., plus; height, 20 mm.; diameter of bowl, outside, 12 mm.; diameter of bowl, inside, 7 mm.; diameter of stem hole, inside, 6 mm.; the prow projects 9 mm. forward from bowl.

STONE PENDANT

An elongate limestone pebble has a cylindrical perforation through one end (pl. 34, *b*). It is, otherwise, an irregular pebble such as might be found in stream gravel. A small pit at the other end may represent a second attempt at perforation. Dimensions: Length, 34 mm.; uniform width in one direction, 14 mm.; tapering from 16 to 7 mm. in thickness; perforation 3 mm. in diameter at a point 9 mm. from the smaller end.

WORKED FOSSILS

Three belemnites retain most of their original conical form but display longitudinally oriented abrasions often to the extent of flattening one or two sides (pl. 34, *c*). One has been ground across one end. Perhaps the specimens were in the process of being made into pendants for a necklace. Dimensions: Length, 33 to 44 mm.; diameter, 10 mm. tapering to a point.

GAMING PIECE

One small disk composed of hematite bears six parallel, V-shaped, engraved lines on one side and scratches from grinding on the other (pl. 34, *d*). The edges are rounded. It measures 19 by 21 mm. in diameter and 4 mm. in thickness. In all probability the specimen served as a counter in a game.

ROUGH-STONE ARTIFACTS

HAMMERSTONES

Twelve waterworn pebbles displaying pecking at one or more points are classifiable as hammerstones. Most of them are fairly symmetrical ovoids of heterogeneous composition, or of quartz (pl. 33, *k*, *l*). Dimensions: Length, 44 to 85 mm.; diameter, 18 to 43 mm.

One granite cobble has a notch pecked on one side (pl. 33, *m*). It may represent an early stage in manufacture of a grooved maul. Dimensions: Length, 140 mm.; width, 120 mm.; thickness, 76 mm.

MISCELLANEOUS ROUGH STONES

Numerous pebbles and cobbles, some fire cracked, occurred throughout the site. Bijou Hills quartzite is represented in the form of flat weathered pebbles. Fragments of limonite and hematite represent sources of yellow and red pigment.

SHELL ARTIFACTS

Fifteen mussel shells display evidence of use. On 14 specimens the edges opposite the hinge lines are worn as if they had been used as scrapers, perhaps in the manufacture of pottery. In one instance (pl. 34, *e*) the edge of a fragment is notched. Perhaps the latter specimen was used for a special purpose.

COPPER ARTIFACTS

Two small fragments of sheet copper are present. One seems to be part of a cylindrical bead while the other is an amorphous fragment. Neither specimen shows significant form in photographs so we have limited illustration to the two photomicrographs in plate 36.

The specimens were submitted to John A. Schleicher of the State Geological Survey for spectrographic analysis. Compared with a piece of copper known to be of European origin, the archeological specimens contain from 5 to 10 times as much silver, appreciably more calcium, much more aluminum, and a considerable amount of nickel. The results of the spectrographic analysis are regarded as inconclusive, but the large amount of silver suggests an origin in the Lake Michigan region.

Kenneth E. Rose of the Department of Mining and Metallurgical Engineering made metallographic studies of the specimens. His report is as follows:

> It is believed that the material is native copper. Sharp, irregular-shaped inclusions seemed to be dislodged during the polishing operation, causing scratches. These were unlike the nonmetallic inclusions normally found in copper, and it is thought that they may have been rock fragments pounded into the metal as it was worked. The microstructure is quite different from that of early copper known to have been made in Europe, and some of the features (such as the streaks seen in pl. 36, *a*) are found in samples of unworked native copper.
>
> The presence of a definite grain structure indicates that the material has been heated at some stage of the working cycle. However, the relatively small number of twinned grains suggests that the copper was hot worked, because cold work followed by annealing results in the formation of many twinned grains.

The wide variation in grain size can be attributed to differences in local degrees of deformation, the fine-grained material having been more severely worked.

Solecki (1953, pp. 370, 390; pl. 29) reports that the copper beads from the Natrium site, an Adena Mound in West Virginia, contain evidence of having been worked while hot. Apparently the technique has an extensive distribution in time and space. Similar analyses of copper specimens from other sites would be of value in the study of metalworking in the Plains.

BONE AND ANTLER ARTIFACTS

Articular butt awls.—Awls retaining the articular surface on the butt end are represented by 7 complete and 2 fragmentary specimens (pl. 34, *f-h*) made of split bones with all surfaces smoothed or polished. At one end each specimen tapers to a sharp point and on the other there has been some smoothing or shaping of the articular surface. Cross sections vary; they may be rectangular with rounded edges, triangular, lens shaped or concavo-convex, depending upon the natural form of the bone. They range in length from 78 to 154 mm., in width from 10 to 20 mm., and in thickness from 6 to 10 mm.

Rounded butt awl.—Two awls are triangular in cross section with rounded butts and smoothed surfaces, tapering to sharp points (pl. 34, *j*). Dimensions: Length, 111 and 122 mm.; thickness, 8 mm.

Flat awl.—One specimen is flat in cross section and triangular in outline (pl. 34, *i*). The broad end has been cut off at right angles to the long axis and the sides have been smoothly rounded. The specimen tapers to a wedge-shaped point. Dimensions: Length, 67 mm.; width, 21 mm.; thickness, 3 mm.

Splinter awls.—Four awls are made of rough irregular bone splinters (pl. 34, *k*, *l*) that taper to sharp polished points. Dimensions: Length, 73 to 96 mm.; width, 8 to 15 mm.; thickness, 4 to 7 mm.

Triangular shaft flakers.—Three flakers are triangular in cross section and have rounded butts on one end (pl. 34, *m*). The opposite ends taper to blunt points showing polish from use. The surfaces have been smoothed but some cancellous bone remains on one side. Dimensions, respectively: Length, 101, 103, and 110 mm.; width, 9, 8, and 11 mm.; thickness, 8, 6, and 8 mm.

Fragments.—Twenty fragments of awls and flakers are represented in the collection. Nine of these are probably portions of articular butt awls and the remaining 11 probably fragments of triangular shaft flakers or rounded butt awls.

Rib flakers.—Three flakers were made from unsplit ribs. Each is different in form. One specimen has been cut off squarely on one end and the rough edges of the cut smoothed. The opposite end has been roughly cut and tapered to a blunt point which shows polish from use (pl. 35, *l*). Dimensions: Length, 292 mm.; width, 25 mm.; thickness, 12 mm.; length of tapered point, 32 mm. Another specimen was made from a section of rib with rough cuts at both ends. One cut surface is rounded and shows polish from use at the tip. Dimensions: Length, 108 mm.; width, 24 mm.; thickness, 13 mm. Another specimen is a small fragment of a flaker. The edges of the rib were removed and the end tapers to a blunt, polished point.

Splinter flakers.—Thirteen flakers made of splinters are present. They are irregular in shape but all taper toward one end that shows abrasion and polishing. One specimen, 170 mm. long, is made from a segment of bone still retaining a portion of an articular surface (pl. 34, *t*). There is smoothing on one side as well as at the point. Twelve other specimens are derived from pieces of ribs, scapulae, and long bones. The tapered ends of two of them are triangular in cross section. As a group, splinter flakers range in length from 115 to 195 mm., in width from 11 to 42 mm., and in thickness from 3 to 21 mm.

Fishhooks.—Two fragments of bone fishhooks were recovered from the site. One is U-shaped, but the tip of both the point and the shaft are missing (pl. 34, *r*). It is rectangular in cross section with rounded edges, and smoothed and polished surfaces. Dimensions: Length of fragment, 30 mm.; width of shaft, 7 mm.; width at bottom, 10 mm.; inside distance between point and shaft, 20 mm.; thickness, 6 mm. One broken shaft of polished bone is planoconvex in cross section with flattened edges between the plane and convex surfaces. One end is polished and the other is broken. The edges are marked with shallow notches, 7 on one side and 4 on the other. Dimensions: Length, 30.5 mm.; width, 7 mm.; thickness, 5 mm. In all probability it is part of a fishhook.

Spatula.—One spatula is represented (pl. 34, *v*). It has parallel sides and is cut to a blunt point on one end. The opposite end is broken. In cross section it is rectangular, but slightly concavo-convex because of the natural form of the bone used. The surfaces have been smoothed but not polished. Some cancellous bone still shows on one surface of the implement. Dimensions: Length of fragment, 74 mm.; width, 16 mm.; thickness, 6 mm.; length of taper at end, 7 mm.

Paint applicator.—One paint applicator made of an ovoid piece of cancellous bone is present (pl. 34, *s*). One end is cut off squarely, one side is slightly rounded and the other end tapers to a point. It is lens shaped in cross section with relatively smooth surfaces and is stained all over with red pigment. Dimensions: Length, 58 mm.; width, 25 mm.; thickness, 11 mm., tapering to 2 mm. on the pointed end.

Perforated ornaments.—Five fragments of bone ornaments made from sections of small ribs with holes drilled near one end are present (pl. 34, *q*). The specimens all show the longitudinal curvature of the rib and have smooth, polished surfaces. They are oval in cross section and taper toward the distal end of the rib which is rectangular in cross section and perforated. Dimensions: Length of fragments, 26 to 100 mm.; width at perforated end, 3 to 7 mm.; thickness at perforated end, 2 to 3 mm.

Shaft wrenches.—Two specimens are identifiable as shaft wrenches (pl. 34, *w*). Both are made of bison ribs polished on both sides, cut off squarely, and smoothed at one end. At the other end each specimen has been broken across an oval perforation. The holes are 11 and 12 mm. wide; length cannot be determined accurately. Dimensions: Length, incomplete, 115 and 155 mm.; width, 26 and 32 mm.; thickness, 20 and 21 mm.

Bone tubes.—Eight bone tubes made of sections of long bone are present (pl. 34, *n–p*). Fragments of cut bone indicate that they were removed from the blanks by means of encircling cuts. The rough edges were then smoothed and the surface of the bone polished. Two of the tubes are broken. One of these has a portion of the encircling cut still present on the broken end suggesting that it may have split during manufacture. The other has the cut end smoothed. One of the complete specimens still has the ends in the rough condition and represents a stage in the manufacturing process. One specimen is of considerably smaller diameter than the others: Length, 41 mm.; diameter, 8 mm. The others range in length from 35 to 72 mm., and in diameter from 15 to 23 mm.

Ulna pick.—One bone tool is a pick made from a bison ulna (pl. 35, *m*). The rounded end of the ulna has been broken off and the long shaft tapered to a point. The point shows slight smoothing and polishing from wear. The length is 285 mm. The specimen was used as a wedge in the northern center post of house 1.

Scapula hoes.—Two complete and 10 fragmentary scapula hoes are present (pl. 35, *k*). Both of the complete specimens have articular ends intact. The vertebral spine has been removed from both specimens and the remaining scar was smoothed superficially. The blades of the hoes are limited to a width of less than half of the original scapula through the removal of the thinner side and the retention of the side that is thicker because of the presence of the vertebral spine. The tip of the blade and the side along the vertebral spine are smooth from wear. The remainder of the blade is not smoothed or polished. The blade of one hoe is irregular in outline while the other is smoothly curved. Dimensions, respectively: Length, 325 and 320 mm.; width of blade, 52 and 45 mm.; length of worked blade, 100 and 105 mm. In addition to the complete specimens, two fragments are identifiable as hoe blades by their narrow projecting worked surfaces. Dimensions: Width of blade, 52 and 74 mm., length of worked blade, 111 and 100 mm. Eight additional fragments of worked scapulae may be classified as probable hoe fragments. All show the removal of the vertebral spine and polishing on some portions of the blade. One of these has the articular surface intact and another has a partially intact articulating end, with the breaks seemingly accidental rather than purposeful. One complete hoe and one probable hoe fragment were used as wedges for posts in the northwest quadrant of house 1.

Scapula knives.—Twenty-one pieces of worked scapula are identifiable as knives. These specimens are made of polished sections of bison scapula, thinned and tapered on two parallel sides. The ends of these specimens vary from rounded corners to tapered points. The cutting area tapers to a thin edge all the way around the ends of the specimens (pl. 34, *u*). Dimensions: Length of the fragments ranges from 27 to 233 mm.; width ranges from 13 to 50 mm. The thickness of one specimen is 23 mm. where a portion of the vertebral spine remains. Most blades are from 1 to 5 mm. thick.

Scapula fragments.—Forty-nine fragments of worked scapula are classed as indeterminate. Five of these could be hoe fragments and eight could be knife fragments.

Cut bone.—Fourteen pieces of cut bone are present. Two pieces show longitudinally incised grooves and were apparently in the process of being split in two. One may have broken in the process. The other has been squarely cut with an encircling groove at 1 end and has 2 grooves, 1 on each side. Another piece of bone tapers at one end to a blunt point. One side and edge are polished in the area near the point, but the point itself is not polished. Just behind the tapered section a rectangular notch has been removed from one edge. Another piece of bone is a small segment of a rib with a shallow notch cut in one side near the end. A fifth piece of bone is tubular. One section of a long bone has had the cancellous bone removed and has been split in half for one-half of its length. The projecting trough has been cut off diagonally to taper to a point. The sides of the cut surfaces are smoothed but not polished.

Cut antler.—Three pieces of cut antler were found. One is a thin fragment with part of an encircling groove in evidence at one end. Another is a portion of a tine broken off roughly at one end and neatly at the other with the aid of an encircling groove. The third specimen is a short piece of antler roughly broken off on one end and cut off squarely on the other by means of an encircling groove. As it tapers toward the cut end it changes from cylindrical to rectanguloid in cross section. One side is slightly convex and the surfaces have been polished. Dimensions: Length, 46 mm.; width, 16 mm., tapering to 9 mm.; thickness, 14 mm., tapering to 7 mm.

Polished bone.—Numerous fragments of bone have been polished in limited areas but show no other modifications.

FAUNAL REMAINS

Throughout the site, bones of various animals and shells of freshwater mussels were encountered. The bison bones were turned over to the Missouri Basin Project of the Smithsonian Institution where Theodor E. White sorted and tabulated them. The other mammal bones and those of amphibians and fishes were identified by James S. Findley, then a graduate student in the Department of Zoology, University of Kansas. The bird bones were identified by Glen Woolfenden, assistant instructor in zoology, University of Kansas. The mollusks were identified by A. Byron Leonard, professor of zoology, University of Kansas.

Ten different kinds of mammals are present in the collection. At least 108 individual bison are identifiable. The other mammals occur in much smaller numbers. Birds, amphibians, fishes, and mollusks are rare.

Mammals

Sylvilagus floridanus	Eastern cottontail.
Cynomys ludovicianus	Black-tailed prairie dog.
Citellus tridecemlineatus	13-lined ground squirrel.
Castor canadensis	Beaver.
Microtus sp	Meadow mouse.
Canis sp	Dog, wolf, or coyote.
Mephitis mephitis	Striped skunk.
Odocoileus virginianus	White-tailed deer.
Antilocapra americana	Pronghorn.
Bison bison	Bison.

Birds

Ectopistes migratorius	Passenger pigeon.
Unidentified duck.	

Amphibians

Bufo sp	Toad.

Fishes

Unidentified fish.

Mollusks

Anodonta sp	Floaters.
Fusconaia flava Rafinesque	Pig toe.
Lasmigona complanata (Barnes)	White heel-splitter.
Proptera alata (Say)	Pink heel-splitter.
Strophitus rugosus (Swanson)	Squaw toe.
Lampsilis sp.	

The faunal list from the site does not offer positive evidence for the season of occupation. On the other hand there is nothing in the list to preclude occupation in winter. The remains of ground squirrel, meadow mouse, and toad may represent intrusions of a later date. Eleven of the 108 bison were immature at the time of death. Only one of the canid bones is from a young individual. None of the rodent bones is from an immature specimen. Prairie dogs would probably be available in an open year until quite late in the season. Other sites in the region produce large numbers of bird bones. The presence of only two bird bones at the Spain site suggests the winter season. The passenger pigeon could have been an early migrant, arriving in March when winter conditions still prevailed.

The bones of the larger mammals, especially bison, deer, and canid were used extensively as raw materials in the manufacture of artifacts. The shells of unionid mussels were used as scrapers. Three species (*Proptera alata*, *Lasmigona complanata*, and *Strophitus rugosus*) are identifiable among the artifacts. The first two are large when mature, strong, and only slightly inflated. These characteristics make the shells suitable for use as scrapers. Perhaps most of the mussels were gathered with this in mind as well as for food.

BOTANICAL REMAINS

Botanical specimens occurred frequently in the form of wood, either rotten or charred, and rarely in the form of charred seeds or pits. The specimens of wood were set aside for future reference when dendrochronological studies are carried on in the area. It will suffice to state that in 1953, cottonwood, willow, oak, elm, plum, and cherry trees were observed growing near the site. In the canyons to the west an occasional juniper was to be seen. Perhaps other varieties of trees were obtainable in the form of driftwood along the river.

The seeds and pits were identified by Worthie H. Horr, professor of botany, University of Kansas, as follows:

Prunus angustifolia Marsh	Chickasaw plum.
P. angustifolia Marsh, var. *Watsoni* (Sarg.) Waugh	Sand plum.
P. americana Marsh	Wild plum.
P. serotina Ehrh	Black cherry.
Zea mays L	Kernels of flint corn.
Zea mays L	8-row corn cobs.
Z. mays L	10-row corn cobs.

The botanical specimens do not contribute to the identification of the site as a winter village. Presumably, the plums, cherries, and corn could have been dried and stored for winter use.

INTERPRETATIONS

There is evidence of two occupations at the Spain site (table 3). Unless otherwise stated in the remarks that follow all references to the culture present at the site refer to component A, the latest occupation, which represents the Chouteau Aspect (Stephenson, 1954), in the form of the Shannon Focus.

Component B is represented by few specimens. In the course of sorting the artifacts of stone and pottery several items not normally associated with the major complex were noted. None of the artifacts was found in a feature attributable to a separate occupation. The specimens belonging to component B include a potsherd of the type Ellis Cord Impressed, nine projectile points distinctive in outline and other attributes, and a fully grooved ax (pl. 35, *a–g*, *i*, *j*). The complex represents a Woodland manifestation similar to that found at the Ellis Creek site and in the Scalp component at the Scalp Creek site. It has been assigned to the Loseke Creek Focus by Hurt (1952).

Evidence of a third culture in the region is in the form of a fragment of the base of a projectile point (pl. 35, *h*) described above as lanceolate, straight base. Lenticular in cross section, it bears long parallel, ribbon flake scars suggestive of the variety usually designated as Yuma. The fragment was found within 8 inches of the surface in excavation unit 2. The specimen pertains to an as yet unnamed Paleo-Indian manifestation and could have been introduced later on by one of the occupants of the site who picked it up elsewhere out of curiosity.

The excavation of a 10-foot square in 3-inch levels in Feature 1, the rich deposit of refuse, and the subsequent study of the vertical distribution of the artifacts failed to reveal any stratigraphy. All of the specimens pertain to component A. No significant changes in the relative popularity of the pottery types occurred. This would suggest that the occupation was of short duration.

TABLE 3.—*Trait list*

COMPONENT A

General:		
Nature of site	Village in bottomlands	
Structures	Round, 4-center-post earth lodges	2
	Indeterminate earth lodge	1
Other features	Refuse in limited areas	2
	Bell-shaped, exterior, cache pit	1
Pottery:		
Rim sherds	Iona Indented	328
	Iona Diagonal-Incised	82
	Iona Horizontal-Incised	311
	Iona S-Rim	149
	Talking Crow Straight Rim	311
	Grey Cloud Horizontal-Incised	54
	Oneota trade sherd	1
	Miscellaneous	318
Total		1,554
Body sherds	Simple stamped	12,721
	Plain	327
	Decorated shoulder	3,374
Total		16,422
Chipped stone:		
Projectile points	Triangular, straight base	16
	Triangular, concave base	28
	Triangular, concave, side notched	3
	Trianguloid, straight base	2
	Trianguloid, concave base	2
	Lanceolate, convex base	1
	Blanks and rejects	13
	Fragments	7
Scrapers	End scraper, type 1	2
	End scraper, type 2	42
	End scraper, type 3	65
	Side scrapers	71
	Large elliptical blades	2

Table 3.—*Trait list*—Continued

COMPONENT A—Continued

Chipped stone—Continued		
Knives	Single edged, "Badlands"	25
	Lanceolate	29
	Crescent-shaped	4
	Ovate	22
	Triangular	7
	Lozenge-shaped	2
	Flake	22
	Fragments	45
Drills	Shouldered	3
	Triangular	3
	Flake	1
	Fragments	4
Ground stone:		
Shaft smoothers	Single grooved	33
	Multi-grooved, reworked	38
Abrading stones	Multi-grooved	4
	Plain, scoria	9
	Plain, sandstone, etc	50
Pipe	Miniature, T-shaped	1
Pendant	Perforated pebble	1
Worked fossiles	Ground bellemnites	3
Gaming piece	Stone disk	1
Rough stone:		
Hammers	Simple hammerstones	12
	Hammerstone, notched at side	1
Pigment	Limonite and hematite, fragments	x
Shell:		
Scrapers	Mussels, edges worn	14
	Mussel, edge notched	1
Copper	Native copper bead, fragmentary	1
	Native copper sheet, fragmentary	1
Bone and antler:		
Awls and flakers	Articular butt awls	9
	Rounded butt awls	2
	Flat awl	1
	Splinter awls	4
	Triangular shaft flakers	3
	Rib flakers	3
	Splinter flakers	13
	Fragments of awls and flakers	20
Worked scapulae	Hoe, articular end unmodified	12
	Knives	21
	Fragments of hoes and knives	49
Miscellaneous	Fishhooks	2
	Spatula	1
	Pigment applicator	1
	Perforated ornaments	5
	Rib shaft wrenches	2
	Cylindrical tubes	8
	Ulna pick	1
	Cut bone	14
	Cut antler	3

COMPONENT B

Pottery:		
Rim sherd	Ellis Cord Impressed	1
Chipped stone:		
Projectile points	Trianguloid, straight base, side notched	1
	Trianguloid, straight base, corner notched	1
	Trianguloid, convex base, side notched	1
	Large trianguloid	4
	Lanceolate, straight base	2
Ground stone:		
Ax	Fully grooved ax	1

UNASSIGNED

Chipped stone:		
Projectile point	Lanceolate, straight base, "Yuma-like"	1

Occupation of the site only in the winter months by the people responsible for component A is suggested by the location, sheltered by tall trees, on an easily floodable low-lying remnant of a terrace.

The scarcity of bird bones, so common in other earth-lodge villages in the region, argues for the use of the site in winter. Two bird bones were found. One is identifiable only as "duck"; the other is from a passenger pigeon, possibly an early spring migrant. The scarcity of the bones of immature individuals among the mammals suggests winter also.

Bushnell (1922, p. 143) states that the Mandan and Hidatsa, "go, in winter, into the forests on both banks of the Missouri, where they find fuel, and, at the same time, protection against inclement weather. Their winter villages are in the thickest of the forest, and the huts are built near to each other, promiscuously, and without any attempt at order or regularity." Bushnell uses for illustration Karl Bodmer's "Winter Village of the Minatarres" in his plate 44. A fortified winter village of the Arikara was seen by Lewis and Clark on October 7, 1804, near the mouth of the Moreau River (Thwaites, 1904, vol. 1, p. 182). It was not occupied at the time of their visit but equipment in the form of mats, baskets, and bull boats was lying about.

There are two other distinguishing characteristics in the site. One is the scarcity of the remains of earth lodges and the other is the concentration of the refuse in two limited areas, the south side of hummock B and the northeast side of hummock A. One possible interpretation is an occupation by a small number of inhabitants who kept their village rather clean by depositing refuse in restricted areas. The test pits and trenches covered enough of the area to preclude our missing other concentrations of refuse but additional houses may have eluded us through poor definition in the soil.

House 1A is interpreted to be an earlier structure than house 1 because most of the former house had been obliterated. The same people may have occupied the site on two separate occasions. On the other hand, house 1A may have burned to the ground and could have been replaced in the form of house 1 in the same season. An alternate interpretation is that what we designate as house 1A may be an architectural feature of house 1.

It is impossible to separate the artifacts found in the area of house 1 into collections pertaining to each of the structures. In all probability the site of house 1A had been cleared and leveled before the second house was erected. Subsequently many artifacts from house 1A may have found their way into the fill of house 1 through the use of earth on the roof. Other artifacts may have remained embedded in the floor. Specimens from the house are listed below:

Pottery is represented by 1,209 fragments, 1,039 of which are body sherds. The 170 rims are classifiable as follows: Iona Indented, 55; Iona Diagonal-Incised, 7 Iona Horizontal-Incised, 44; Iona S-Rim A, 9; Talking Crow Straight

Rim, 29; Grey Cloud Horizontal-Incised, 11; unclassified indented, 14; strap handle, 1.

Ten bone artifacts were found: One articular butt awl, 2 splinter flakers, 1 fragment of a scapula hoe, 1 scapula knife, 3 fragments of worked scapulae, 1 tube, and 1 ulna pick.

Chipped-stone artifacts are represented by 43 specimens. Seven projectile points are classifiable as follows: Triangular, straight base, 1; triangular, concave base, 3; trianguloid, concave base, 1; large trianguloid, 1; lanceolate, straight base, 1. The last two points may pertain to an earlier occupation. Seventeen specimens are classifiable as scrapers. Ten end scrapers of variety 3, 5 side scrapers, and 2 large elliptical blades are present. Knives are represented by 19 specimens classifiable as follows: Lanceolate, 2; triangular, 2; flake, 4; fragmentary, 11.

Eleven artifacts of ground and rough stone are present: Two shaft smoothers with single grooves, 2 shaft smoothers with more than 1 groove, 1 scoria abrader, 1 sandstone abrader, 1 perforated pebble, and 2 hammerstones.

The presence of maize in the form of 8- and 10-row flint corn indicates that the occupants of the village had engaged in gardening in the season prior to the establishment of the village. The scarcity of scapula hoes suggests that they had little use for them while at the site. Perhaps most of their hoes were stored at their summer quarters. Wild plums and cherries had been gathered in the summer to augment their winter fare. These fruits probably had been dried for storage. Their projectile points, shaft wrenches, and shaft smoothers indicate the use of the bow and arrow in hunting and, possibly, in warfare. The large number of bison bones in contrast to those of other animals shows their preference in meat. Fishing and shellfish collecting seem to have been minor pursuits.

The absence of grinding slabs and handstones suggests that the wooden mortar and pestle were used in the preparation of maize for food. No posthole in house 1 was identifiable as a mortar hole, however. Many of the potsherds have carbonaceous material adhering to them, demonstrating the use of pottery vessels in cooking. In all probability many of the vessels were suspended over the fire by handles of willow or rawhide fastened to lugs and handles. Other pots may have been placed directly on the fire. Refuse from cooking, eating, and other activities was deposited in limited areas, perhaps set aside for that purpose.

The prevalence of knives, scrapers, and awls indicates that much time was devoted to the preparation of hides for clothing and other purposes. The construction of the houses in which logs and poles were used indicates skill in woodworking yet only one ax was found and it is attributable to an earlier, pre-earth-lodge, Woodland occupation.

A small stone disk suggests the playing of a game involving the use of counters. Stone pendants were used as personal ornaments. It is evident that they painted various objects and, probably, themselves on the basis of the occurrence of mineral paints and a pigment applicator. A bone spatula may have been used in flattening quillwork on clothing. The smoking pipe suggests the ceremonial use of tobacco or some other plant. The arrangement of the four center posts of the house at the cardinal points is indicative of ritual in the building of the structure. The possibility of trade with tribes to the east and to the south is indicated by a copper bead and a few sherds of shell-tempered pottery.

The houses at the Spain site differ in few details from the circular earth lodges found at the La Roche (Meleen, 1948), Robinson (George, 1949), Meyer (Hoard, 1949), and Scalp Creek (Hurt, 1952) sites. They share the four-center-post foundation with each post set approximately on a cardinal point, seemingly vertical outer walls, central fireplace, and covered entrance passage, usually oriented to the southeast. The houses at these sites have fewer and more widely spaced outer posts than at the Spain site, however. Interior cache pits are absent at the Spain site but present at the La Roche, Robinson, Meyer, and in the Wheeler component at Scalp Creek. Cylindrical rather than bell-shaped pits occur at La Roche and Wheeler.

A definite statement cannot be made in regard to interior cache pits and houses at the Talking Crow site (Smith, MS.) because no house plans for component C, the closest temporal equivalent of the Spain site, could be delineated. The later occupation, component B, lacks interior cache pits and has houses with numerous, closely set outer posts. The entrances are oriented to the southwest instead of the southeast (Smith, 1953).

Posts, especially those supporting the center of the house, at the Spain site are frequently surrounded by bison bones jammed into place between the wood and the outer edges of the hole. No mention of this trait is made by Meleen (1948) in describing the posts at the LaRoche site, but it is present at all of the other sites.

In terms of pottery the last occupation of the Spain site shares a majority of traits with the La Roche and Wheeler components (Hurt, 1952), characterized by Wheeler Ware, a thin, fine-textured pottery. The pottery from the Spain site differs in that it is thicker, coarser, and has higher rims and more strap handles. A relationship with component C at the Talking Crow site (Smith, MS.) is indicated by the presence of the types Talking Crow Straight Rim and Grey Cloud Horizontal-Incised. The term "Iona Ware" is used in connection with the pottery from the Spain site to differentiate it from Wheeler Ware and to permit the use of different criteria in establishing the types.

Hurt (1952, p. 63) has compared the La Roche (Meleen, 1948), Meyer (Hoard, 1949), and Wheeler components in terms of the popularity of horizontally incised rims. In order to compare the pottery of this kind from the Spain site it is necessary to add the totals under several categories as follows:

Iona Horizontal-Incised	311
Iona S-Rim A	77
Grey Cloud Horizontal-Incised	54
Unclassified, lips missing	95
Total	537

The total of 537 horizontally incised rims represents 34.2 percent of the rims from the Spain site. The four components may then be placed in seriation as follows:

	Percent
Meyer	77.0
La Roche	51.0
Spain	34.2
Wheeler	13.9

The order in which the sites are arranged seems to reflect geographic rather than temporal relationships. It may be significant that the seriation places the sites in their exact relationship to each other up and down the Missouri River (map 5) for an airline distance of approximately 150 miles. The Wheeler component is the southernmost; the Meyer component is the northernmost of the four.

In his report on the La Roche site Meleen (1948, pp. 28–31) compares the traits of the La Roche site with those found by him in the Wheeler component at the Scalp Creek site in 1941 and with the Lower Loup Focus. A total of 90 traits is involved in the comparison. The total number of traits listed for the La Roche site is 60, not 90 as stated by Hurt (1952, p. 34). Three of the 60 traits are of doubtful validity for the La Roche site. Trait 10, "More than four center posts," refers to a house that seems to have been rebuilt. Trait 13, "Numerous small, closely set, outer wall posts," does not fit the houses at the La Roche site shown in the ground plans but does fit the situation at the Spain site. Trait 46, "Small bowls," is not described in Meleen's section on pottery. It is concluded that the La Roche site has 57 traits for comparison. The Wheeler component at Scalp Creek, to the best of our computations, has 54 traits. In the Wheeler trait list the grooved ax and the two burial traits are omitted because they seem to have been derived from the underlying Woodland occupation. The Spain site has 63 traits for comparison.

A comparison of the three components involves the distribution of 70 traits shared as follows:

	La Roche	Wheeler	Spain
La Roche	—	46	44
Wheeler	46	—	45
Spain	44	45	—

Traits peculiar to each component and those shared by only two of them are listed in table 4. The La Roche component has 5 unique traits; the Wheeler component has 3; the Spain component has 10. In the limited list 5 traits are shared by La Roche and Wheeler; 5 other traits are shared by Wheeler and Spain.

TABLE 4.—*Comparative trait list*

Trait	La Roche	Wheeler	Spain
Large, loosely arranged site	×		
Bison skull in house	×		
Stone mortar	×		
Disk bowl pipe	×		
Stemmed-bone projectile point	×		
Interior cache pit	×	×	
Antler cylinder	×	×	
Grooved maul	×	×	
Pitted hammerstone	×	×	
Antler tine flaker	×	×	
Compact, fortified village		×	
Notched, flaked ax		×	
Toothed-bone flesher		×	
Strap handles on pottery		×	×
Lugs on pottery		×	×
Side-notched stone projectile point		×	×
Bone fishhook		×	×
Bone tube		×	×
Small winter village			×
Numerous, small, closely set, wall posts			×
Shell-tempered pottery associated			×
Loop handles on pottery			×
Stone gaming piece			×
Lozenge-shaped knife			×
T-shaped miniature pipe			×
Pebble pendant			×
Worked-fossil bellemnite			×
Tubular, native copper bead			×

It is impossible to weigh one trait against another and judge, for example, whether the presence of numerous, closely spaced wall posts is more important as a determinant than loop handles on the pottery. We conclude that the Spain, Wheeler, and La Roche components are rather similar in content. In our opinion this indicates that they all belong to the Chouteau Aspect, but not necessarily to the same focus. Component A at the Spain site appears to be the manifestation of a focus other than La Roche to which Hurt has assigned the Wheeler and La Roche components. The term Shannon Focus, named after Pvt. George Shannon of the Lewis and Clark Expedition, is assigned to the complex.

In the course of our investigations in Lyman County a large surface collection was gathered from the Clarkstown site (map 5; pl. 25, *a*, *b*) and a small collection was obtained at the Deerfly site (map 5; pl. 25, *a*, *b*) by excavation. Both of the sites are described in the Appendix. The occurrence of these sites on high terraces suggests that they may have been summer villages.

The collection from the Deerfly site is too small to permit assignment of its component B below the level of the Chouteau Aspect. The collection from component B at the Clarkstown site is assignable to the Shannon Focus along with component A at the Spain site. Additional work was done at the Clarkstown site in 1954 by a field party from the Smithsonian Institution under Paul Cooper. The data gathered are not available for comparison.

Other sites may be compared with the Spain site but not in such detail. This is because of lack of published data or inadequacy of the sample. No comment can be made on the White River, Bowman, Medicine Creek, and Evarts sites mentioned by Meleen (1948, pp. 26–27) because no detailed information is available. Hurt (1952, pp. 61–62), in his discussion of the La Roche Focus, includes the McClure site (map 5) which is known to him from the unpublished work of W. Raymond Wood of the University of Nebraska, and the Ericksen site, a village situated on the White River, but not specifically located. Stephenson (1954, p. 18) includes the Pishelville site, Knox County, Nebr., in the same focus.

The Bennett Focus of the Chouteau Aspect has been suggested (Stephenson, 1954, p. 18) as a name for the cultural manifestation characterizing the Black Widow B and Meyer components (map 5) in Oahe Reservoir. The descriptions of the pottery and other artifacts from the Meyer site (Hoard, 1949) are inadequate for comparison, and the data from the Black Widow site, excavated by Paul Cooper for the Smithsonian Institution, have not as yet appeared in print. It seems best to reserve judgment in regard to comparisons between the Shannon Focus and the Bennett Focus.

The age of the Chouteau Aspect must be estimated by indirect means. Meleen (1948, p. 31) submitted samples of wood from the La Roche site to George F. Will for dating in terms of a dendrochronological chart established in North Dakota. A date bracket of A. D. 1434–1475 was determined for the site. Lehmer (1954, pp. 137–138) has questioned the applicability of the master chart for south-central North Dakota in central South Dakota on the basis of the marked variance in the rainfall records of the two areas. Hurt (1952, pp. 61–64) finds that the dating does not fit the archeological evidence in relation to other culture complexes, notably the Thomas Riggs Focus. It seems best to disregard this application of Will's dates and to approach a solution to the problem in other ways.

First, we are safe in assuming that the Chouteau Aspect is prehistoric on the basis of the absence of European trade goods in the sites that have been excavated. It is doubtful if any trade goods reached villages in the area under consideration before the closing years of the 17th century. Present in the area are manifestations demonstrably older than the Chouteau Aspect such as component D at the Talking Crow site (Smith, MS.) and the Arzberger component (Spaulding, 1956), assignable to the Aksarben Aspect.[2] They are characterized by pottery similar to that from western Nebraska dated about A. D. 1300–1517 on the basis of dendrochronology at Ash Hollow Cave (Champe, 1946, pp. 48–50). We would place the date of similar manifestations in South Dakota at about 1500 because the culture seems to be intrusive there and to contribute traits to other cultures known to be later on the basis of stratigraphy and seriation at the Talking Crow site (Smith, MS.). The absence of cord marking as a surface finish on the pottery of the Chouteau Aspect indicates that it falls later than the Aksarben penetration in time. This means that the Chouteau Aspect has a maximum time span of from some time after A. D. 1500 until some time before A. D. 1700. A conservative estimate for any one of the components is about A. D. 1550–1650.

The Chouteau Aspect, with its distribution along the Missouri River from central South Dakota into northeastern Nebraska on the time level just prior to the advent of European traders, may represent the culture of the traditionally related Arikara and Pawnee. This interpretation is offered as a speculation subject to modification in the light of later findings.

TABLE 5.—*The archeological sequence in Fort Randall Reservoir*

1900	Historic Dakota (Talking Crow A, Oacoma A, Clarkstown A, Deerfly A).
1800	?
1700	Pahuk Aspect (Talking Crow B, Oacoma B, Oldham A).
	Great Oasis Aspect (Oldham B).
1600	Chouteau Aspect (Spain A, Wheeler, Clarkstown B, Talking Crow C, Deerfly B).
1500	Aksarben Aspect (Talking Crow D).
1400	?
1300	Chamberlain Aspect (Swanson).
1200	?
1100	Woodland Pattern (Scalp, Ellis Creek, Spain B, Talking Crow E).
?	Paleo-Indian (?).

In table 5 the sequence of cultures in the Fort Randall Reservoir is set forth in simplified form. The table is based on discussions at the 11th Plains Conference for Archeology (Stephenson, 1954) and on data from the Talking Crow site (Smith, MS.). The dates are rounded estimates. No attempt is made to classify the cultures below the level of the aspect. Letters following the names of the sites designate separate components based on stratigraphy, on seriation, and on the basis of separating known complexes in mixed collections.

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[2] At the 11th Plains Conference for Archaeology (Stephenson, 1954) it was suggested that the archeological complexes previously separated as the Upper Republican and Nebraska Aspects be grouped together and called the Aksarben Aspect. Cultural manifestations in South Dakota with Central Plains affinities often share traits with both the Upper Republican and Nebraska Aspects and the term Aksarben is a useful one in this situation. The validity of the new term must be tested by means of a review of the data from both areas.

The sequence in the vicinity of the Oahe Dam, designated as Fort Pierre Branch by Lehmer (1951, 1954), lacks manifestations attributable to the Paleo-Indian and Woodland. The Anderson and Monroe Foci are part of the Chamberlain Aspect. Sites comparable to Thomas Riggs appear to be absent in the Fort Randall Reservoir. Although not part of the Fort Pierre Branch the Aksarben Aspect is present in the form of the Arzberger site south of Pierre. The Chouteau Aspect is represented by Lehmer's "Meyer and La Roche" grouping. The Great Oasis and Pahuk Aspects are absent in the Fort Pierre area. Hurt (1954) places the Spotted Bear Focus prior to Lehmer's Stanley and Snake Butte Foci and after Chouteau. Findings at the Cottonwood site (Hurt, 1954) indicate occupation of the area by the Dakota on about the same time level as in the Fort Randall Reservoir.

SUMMARY AND CONCLUSIONS

The latest and principal occupation at the Spain site is attributable to the Shannon Focus of the Chouteau Aspect. A minor occupation attributable to the Loseke Creek Focus of an unnamed aspect of the Woodland Pattern is also present. The possibility of a still earlier occupation in the region, if not at the site, is indicated by the presence of the basal portion of a Yuma-like projectile point.

The latest occupation of the site seems to have taken place in winter. The component represents a community of earth-lodge-dwelling people situated in a place protected from the wind and handy to a supply of wood. A conservative estimate for the period of occupation would be between 1550 and 1650, perhaps about 1600.

APPENDIX

THE CLARKSTOWN SITE (39LM47)

In the course of the season in which the Spain site was excavated we visited the Clarkstown site (39LM47), situated in the point of land between the White and Missouri Rivers on the second rise of ground at an elevation of 1,350 feet, about 2½ miles northeast of the Spain site (pl. 25, *a*, *b;* map 5). The legal description of the locality is NW¼, SW¼, sec. 22 T103N R72W. The Lewis and Clark Expedition passed the mouth of the White River on September 15, 1804. Clark (Thwaites, 1904, p. 148) states that ". . . in the point is a butifull situation for a Town 3 gradual assents and a much greater quantity of timber about the mouth of this river than useal, . . ." Because the archeological site is the only settlement in evidence we have named it Clarkstown.

The site had been freshly plowed and we were able to gather a large collection of artifacts from the surface. The pottery is identical with that from the Spain site. The collection comprises 1,060 potsherds, of which 945 are body sherds and 115 are rim sherds.

The body sherds include 540, or 57.2 percent, simple stamped; 204 or 21.5 percent, plain; 201, or 21.3 percent, decorated shoulder. Eighty-one of the sherds from decorated shoulders are classifiable as follows: Opposed diagonal lines of incising, 35.8 percent; incised herringbone motif, 39.5 percent; incised parallel lines arranged vertically, 22.2 percent; punctated, 2.5 percent.

Rim sherds are represented by 115 specimens, 91 of which are classifiable by type: Iona Indented, 39, or 42.9 percent; Iona Diagonal-Incised, 3, or 3.3 percent; Iona Horizontal-Incised, 19, or 20.8 percent; Iona S-Rim B, 5, or 5.5 percent; Iona S-Rim C, 1, or 1.1 percent; Talking Crow Straight Rim, 16, or 17.6 percent; Grey Cloud Horizontal-Incised, 8, or 8.8 percent. The group of 24 miscellaneous rims includes 8 plain rims, 1 strap handle, 2 miniature vessels, and 14 unclassifiable sherds. Among the rim and body sherds are eight that are shell tempered. The total number of horizontally incised rims is 33, or 28.7 percent. This amount is close to that found at the Spain site.

Artifacts of stone and bone from the Clarkstown site are few in number and do not appear to differ significantly from those present at the Spain site. In the eastern part of the site objects of 19th century White manufacture and pieces of catlinite bearing marks from metal saws occurred. Perhaps most of these specimens pertain to the occupation of the region by the Dakota. Mattes (1949, p. 518) notes that the south half of section 22 was the probable location of Medicine Bull's camp and a mission house in about 1890. The later occupation is designated as Clarkstown A, the earlier as Clarkstown B.

THE DEERFLY SITE (39LM39)

Excavations were carried on at the Deerfly site (39LM39) from June 13 to June 22, 1954. The site is situated on a sloping terrace a mile north of the Spain site in the NE¼, sec. 29 T103N R72W (map 5; pl. 25, *a*, *b*). The site was so named because of the prevalence of deerflies in this locality in contrast to others. Occupation A consists of a series of log cabins and sheds attributable to the Dakota of the last quarter of the 19th century. These structures have left small, shallow depressions thought to represent the remains of earth lodges until excavated. Numerous items of late 19th century White manufacture including glass beads were associated with catlinite, cut with metal saws, and a perforated pebble on the floor of one of the structures.

Test trenches in the area yielded meager evidence of occupation B, characterized by 18 potsherds and a few artifacts of chipped and rough stone. The pottery is identical with that found at the Spain and Clarkstown sites. The three rims found are identifiable as Iona Indented, Talking Crow Straight Rim, and unclassified plain. Five of the body sherds are simple stamped; 10 are plain.

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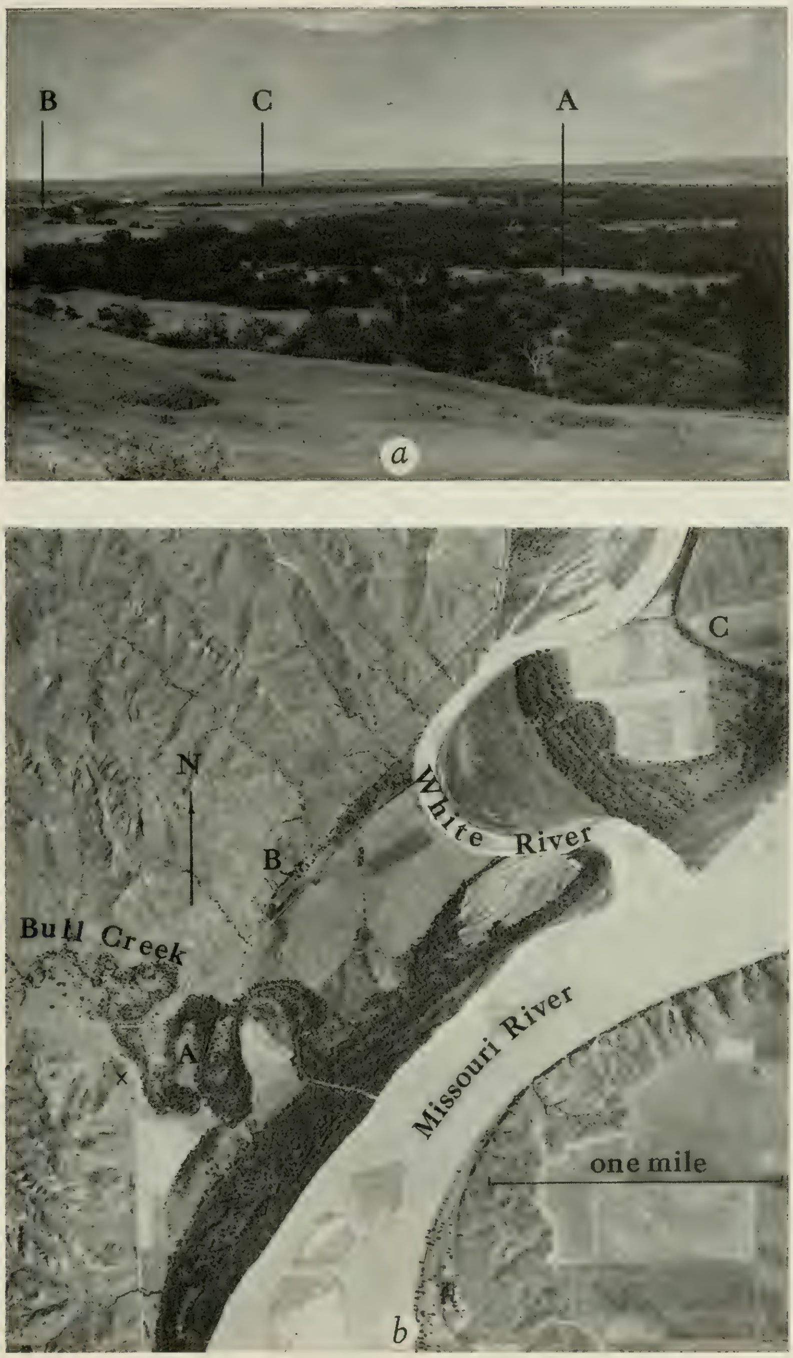
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White River
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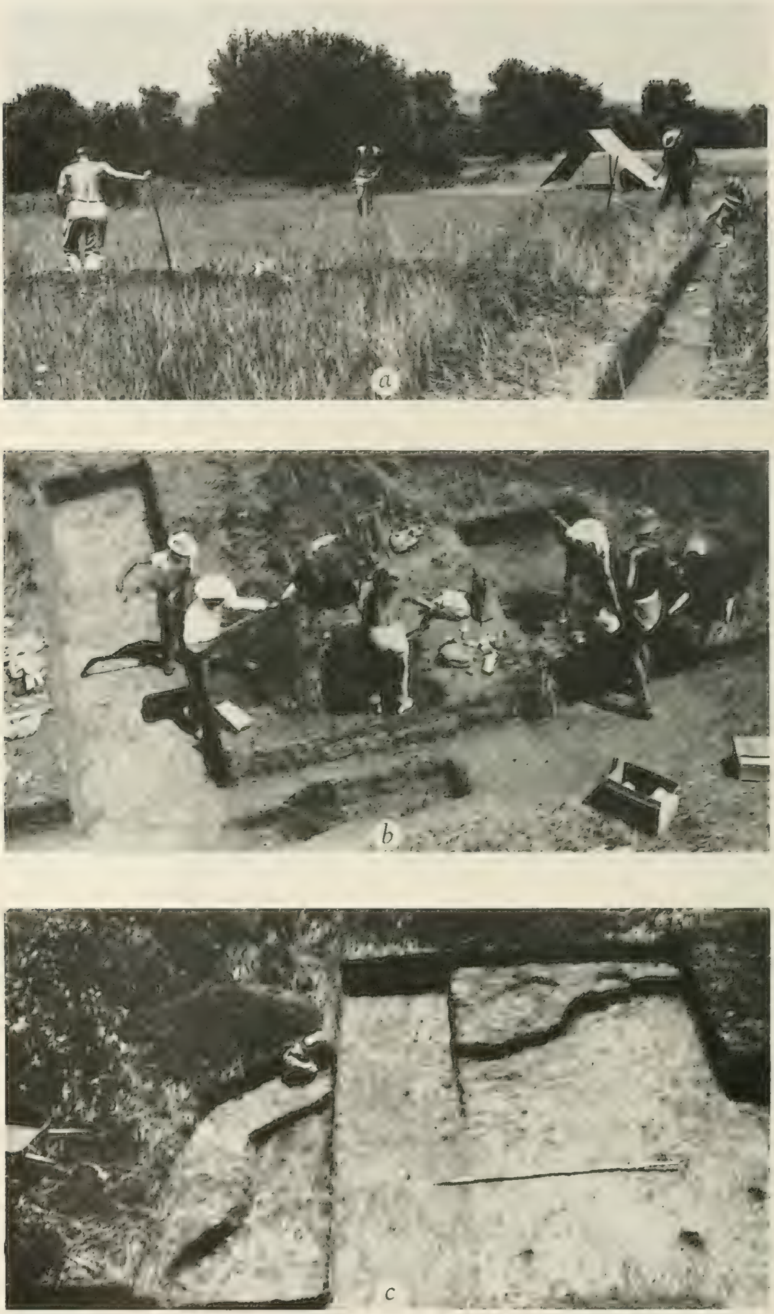
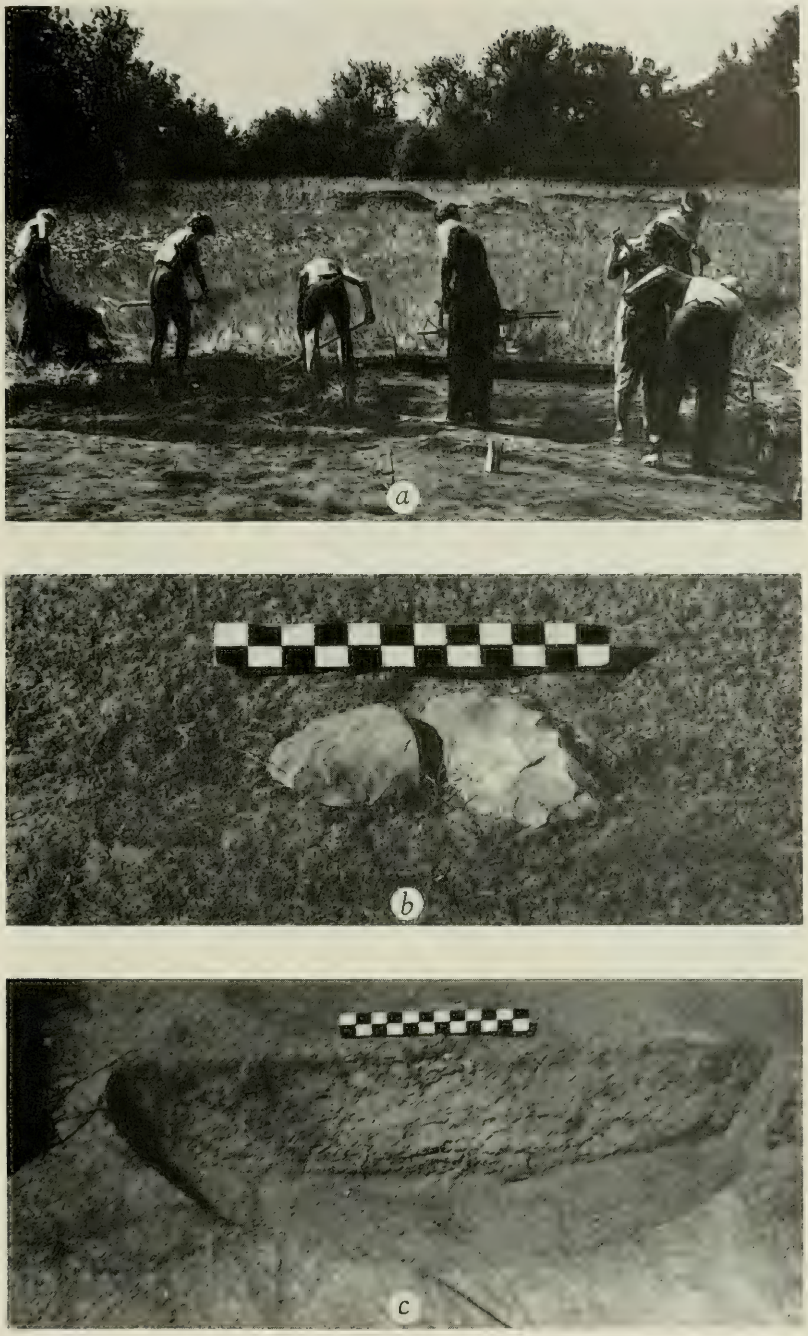
Missouri River
one mile
b

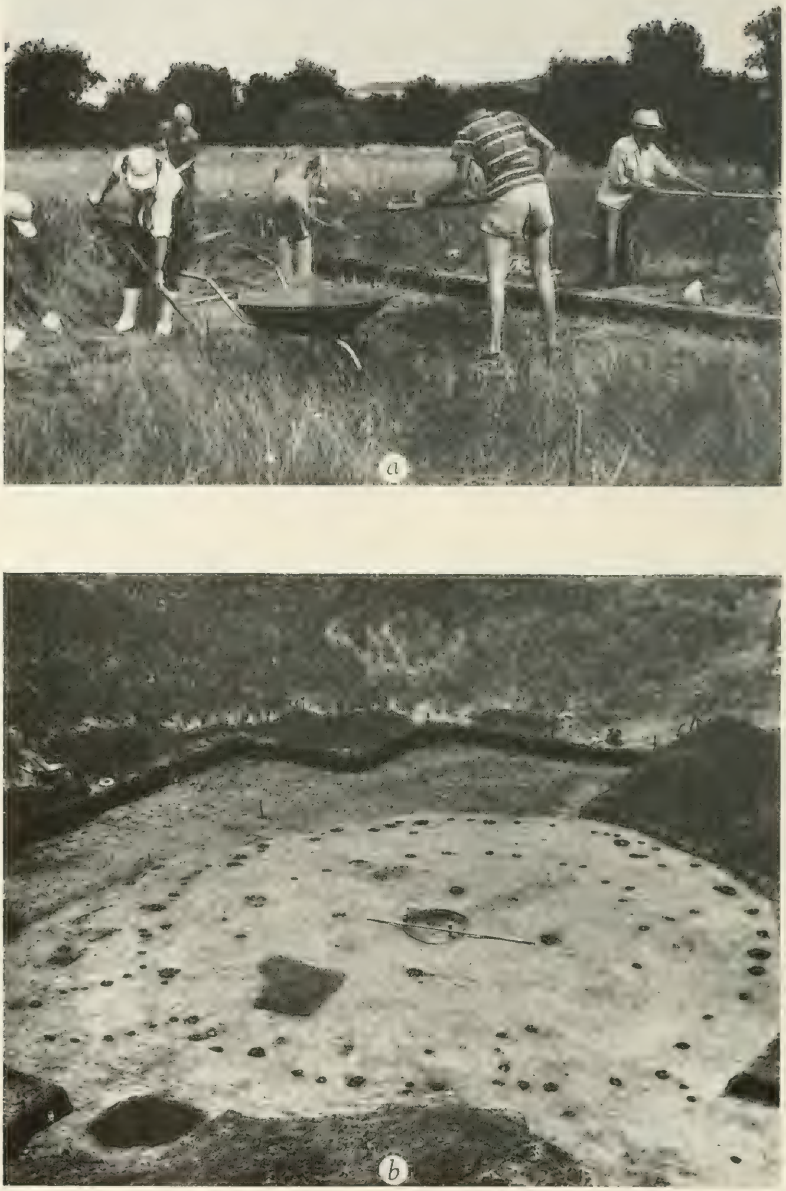
Aerial views of the Spain site and its environs. *a*, Oblique view to the northeast; *b*, vertical view by U. S. Department of Agriculture. A, Spain site; B, Deerfly site; C, Clarkstown site; ×, Point from which oblique view was taken.



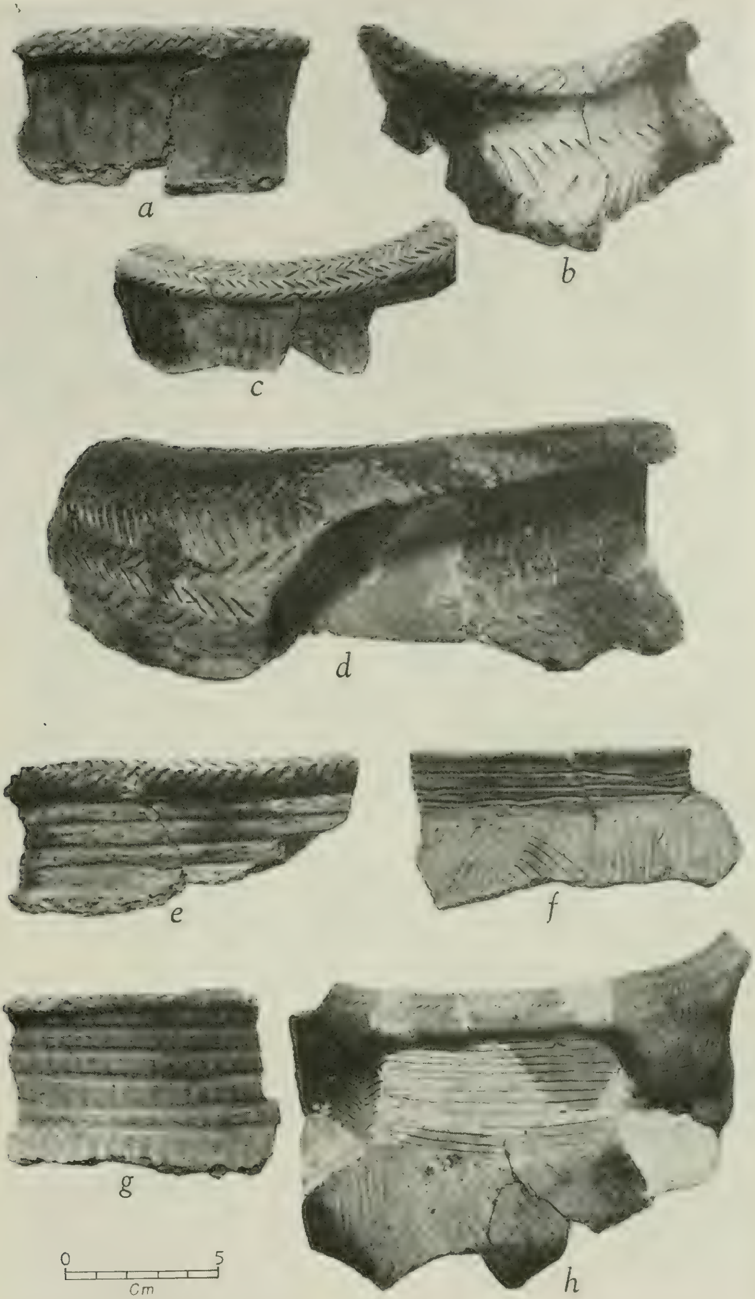
Views of excavations. *a*, Excavation unit 2, to north. *b*, Ten-foot square in Feature 1 to east. *c*, Feature 1 completely excavated, to east.



Views of excavations and artifacts in situ. *a*, Excavation of refuse south of house 1. *b*, Blades in situ on the floor of house 1. *c*, Fireplace in house 2.



House 1 during and after excavation. *a*, Starting cross trenches, to north. *b*, Completely excavated, to west.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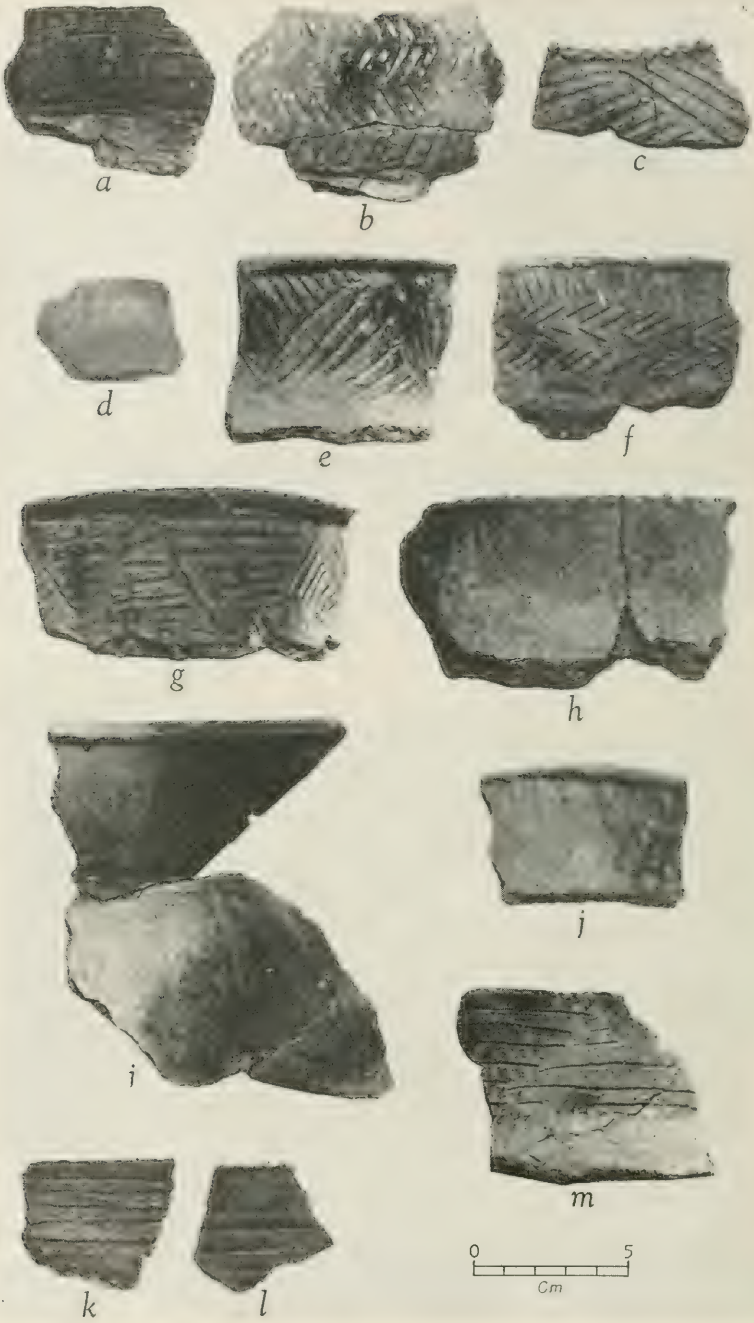
Iona ware. *a-d*, Iona Indented; *e-h*, Iona Horizontal-Incised.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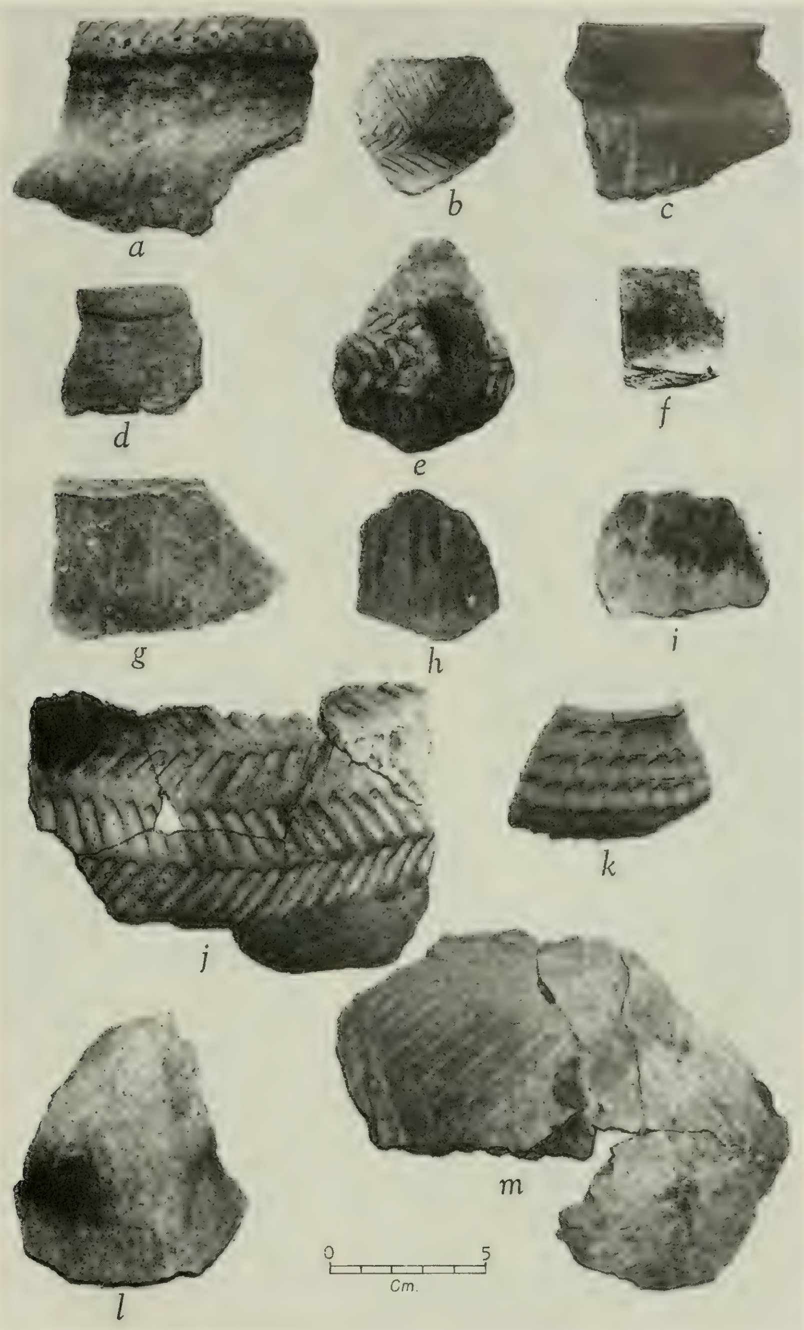
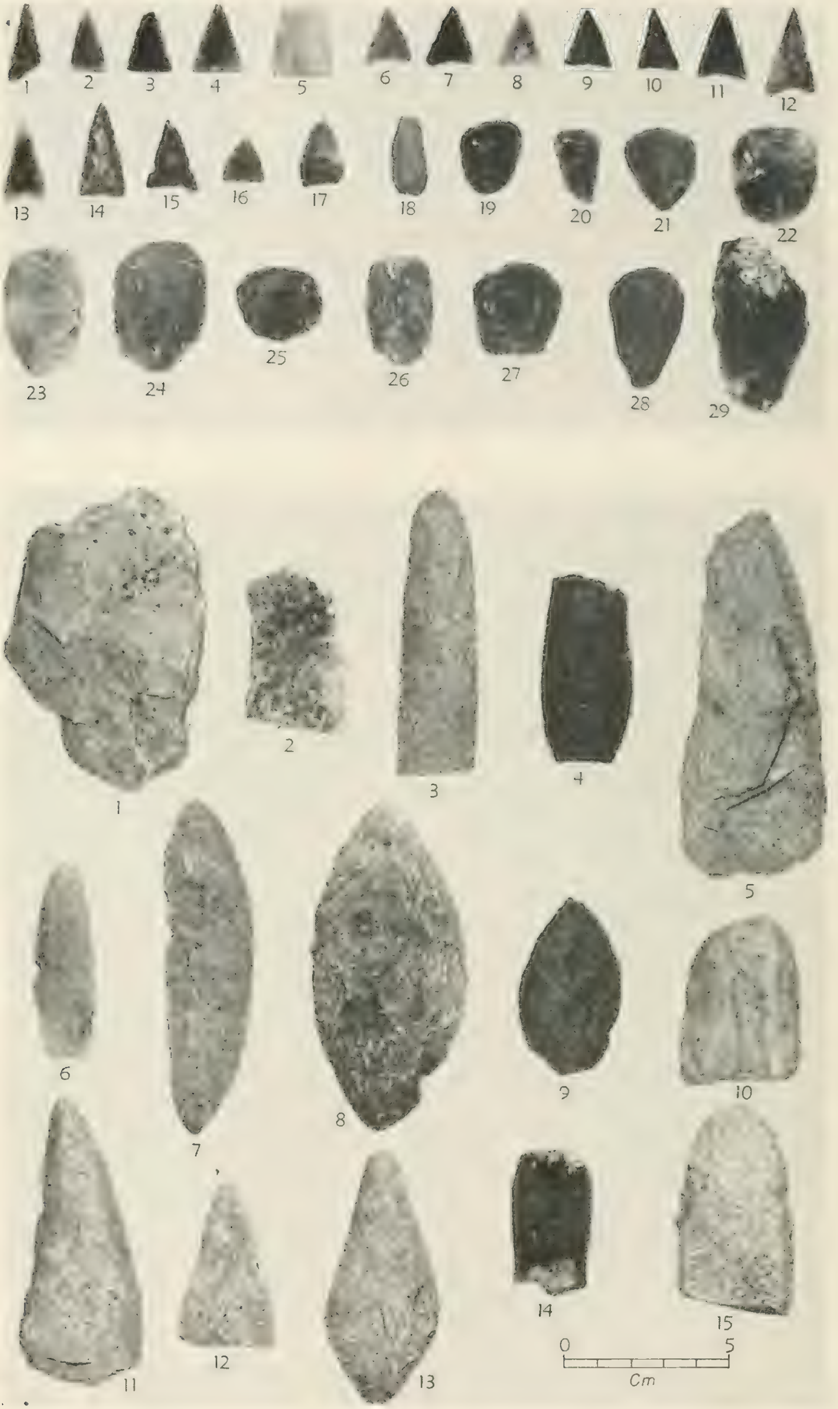
Iona and other wares. *a-d*, Iona S-Rim; *e-g*, Iona-Diagonal-Incised; *h-j*, Talking Crow Straight Rim; *k-m*, Grey Cloud Horizontal-Incised.



Unclassified pottery. *a*, Indented rim; *b*, incised collared rim; *c-d*, plain rims; *e*, loop handle; *f-g*, shell-tempered sherds; *h-k*, *m*, decorated shoulder sherds; *l*, simple stamped body sherd.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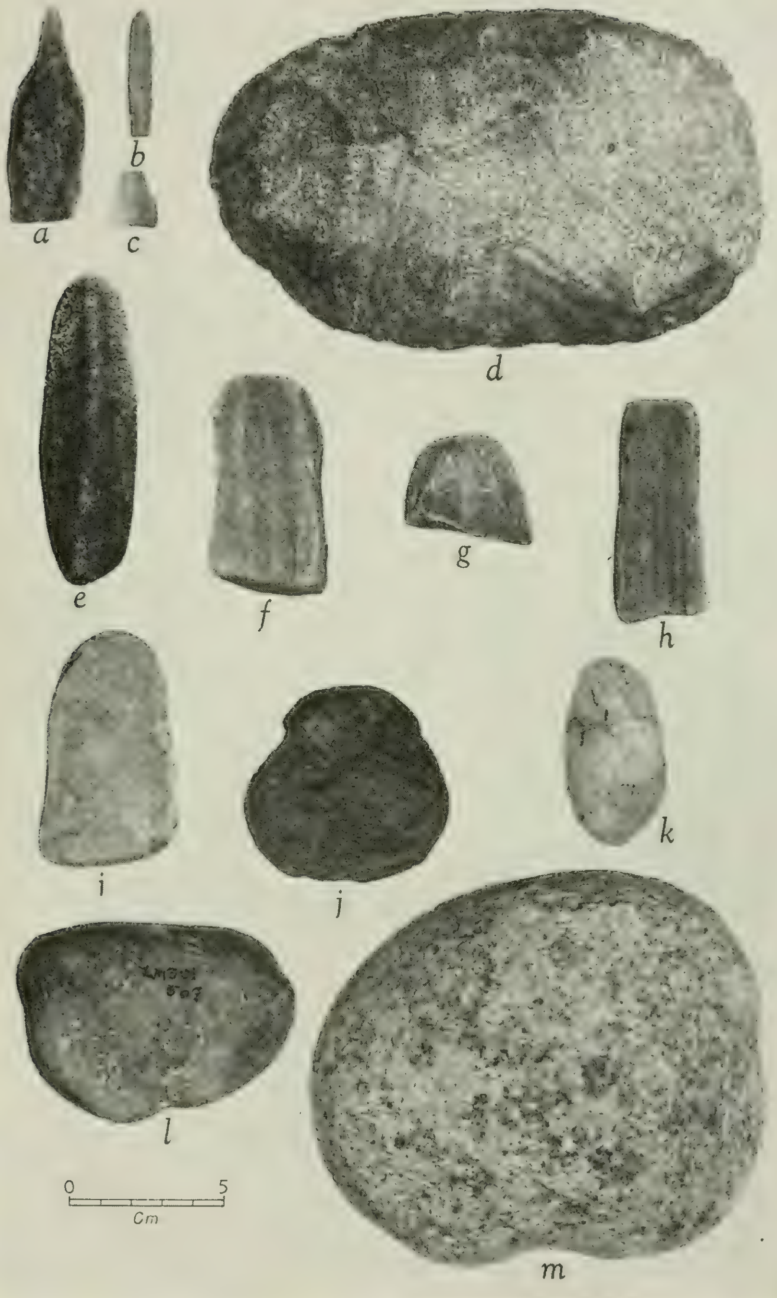
Chipped stone artifacts. *Upper*, Nos. 1–18, Projectile points; Nos. 19–28, end scrapers; No. 29, side scraper. *Lower*, No. 1, side scraper; Nos. 2–15, knives. Scale in *lower* group applies also to *upper* group.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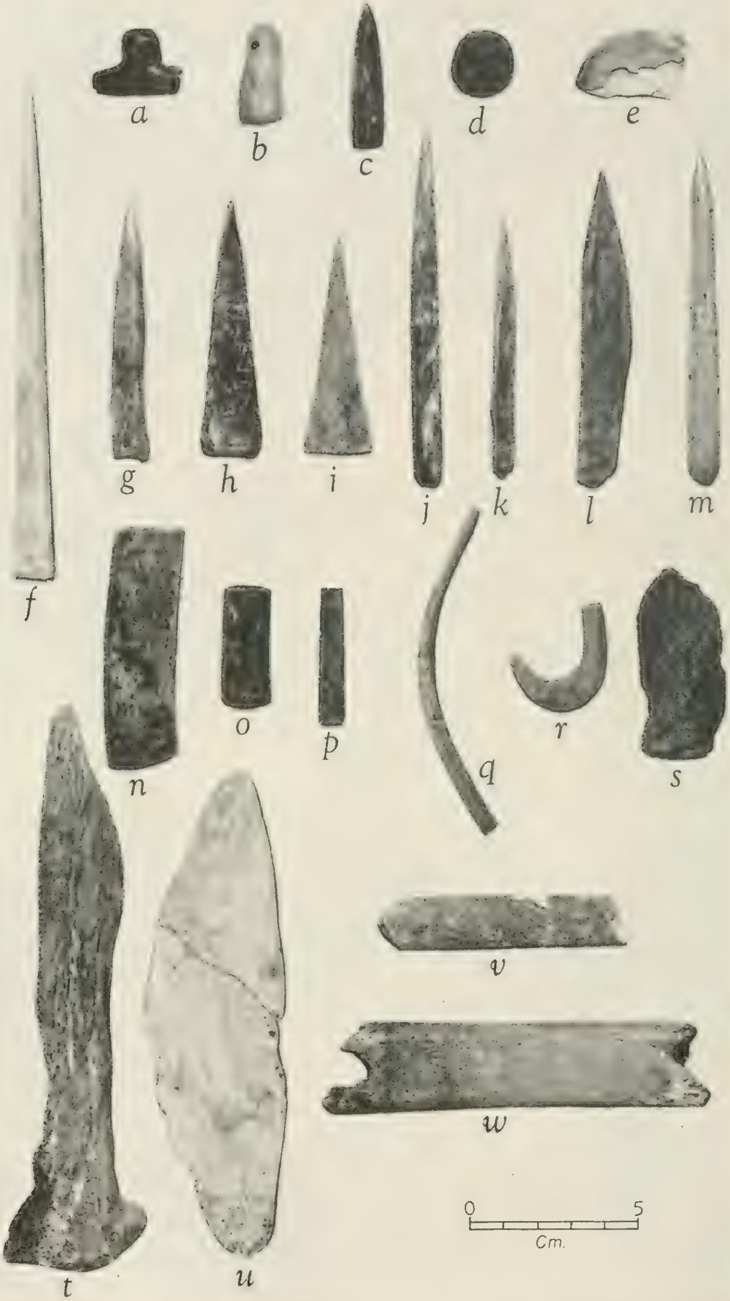
Chipped, ground, and rough stone artifacts. *a-c*, Drills; *d*, blade; *e-h*, shaft smoothers; *i*, *j*, abraders; *k-m*, hammerstones.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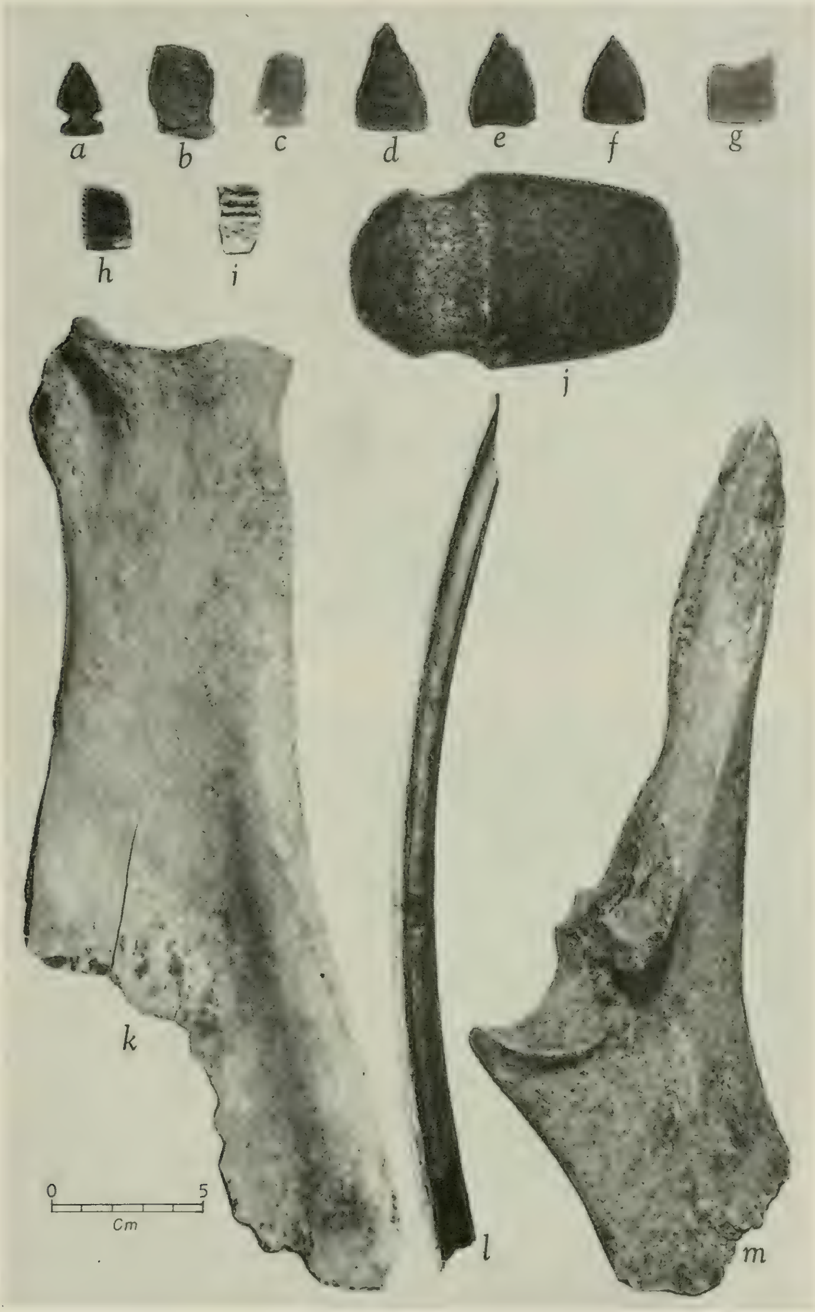
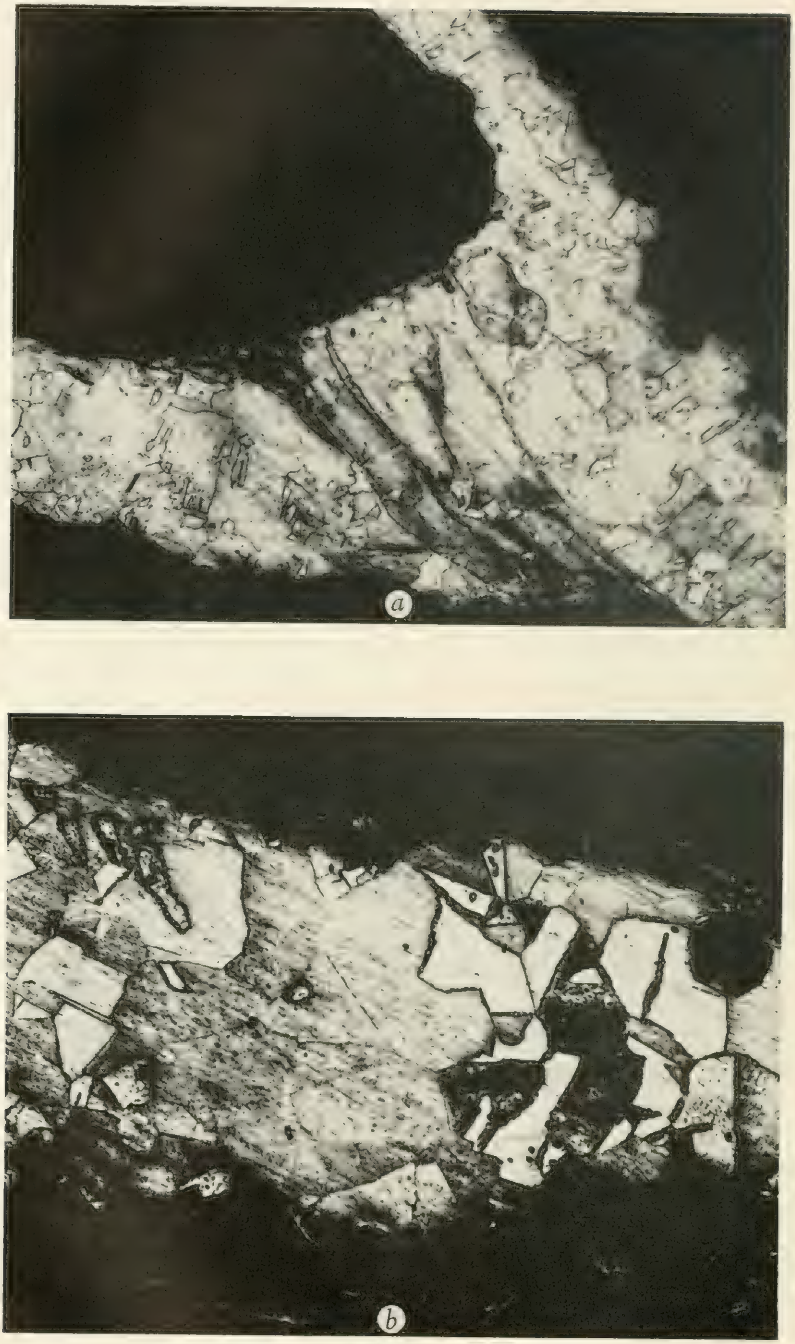
Stone, shell, and bone artifacts. *a*, Pipe; *b*, pendant; *c*, worked fossil bellemnite; *d*, disk; *e*, notched shell; *f-l*, awls; *m*, flaker; *n-p*, tubes; *q*, ornament; *r*, fishhook; *s*, pigment applicator; *t*, flaker; *u*, knife; *v*, spatula; *w*, shaft wrench.



Miscellaneous artifacts. *a-g*, Woodland projectile points; *h*, Yumalike point; *i*, Ellis Cord-Impressed sherd; *j*, Woodland ax; *k-m*, Shannon focus hoe, flaker, and pick.



Photomicrographs of native copper. *a*, Microstructure of cross section of bead (× 100). *b*, Microstructure of cross section of amorphous fragment (× 100).

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Bulletin 169

River Basin Surveys Papers, No. 12

The Wilbanks Site (9CK-5), Georgia

By WILLIAM H. SEARS

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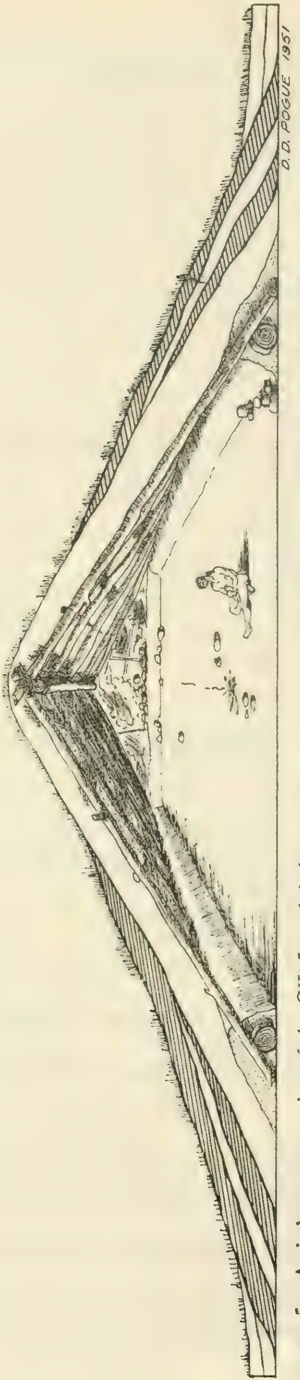

Figure 5.—Artist's reconstruction of the CK–5 earth lodge, cross sectioned just inside East wall. See figures 6 and 7 for details as found.

THE WILBANKS SITE (9CK–5), GEORGIA [1]

By William H. Sears

INTRODUCTION

The Wilbanks site, 9CK–5 in the nomenclature of the River Basin Surveys, Smithsonian Institution, is located on the flat bottom lands of the Etowah River in north Georgia. As this river is in the foothills of the Appalachians, it flows in a southwest-northeast direction, following the line of the ridges and valleys, rather than flowing north and south as do most of the rivers in Georgia. At Rome, near the Alabama border, the Etowah joins the Oostanaula to form the Coosa, and eventually empties into the sea through the Alabama River.

The area generally is quite hilly, and heavily timbered even today. The only flat areas of any size are the river flood plains, which are composed of the most fertile soils in the area.

Archeology in the Etowah valley has a long history, beginning in 1883 with excavations by Rogan in mound C at the Etowah site for the Smithsonian Institution (Thomas, 1887, pp. 95–109). Fifty years later, W. K. Moorehead returned to the Etowah site and conducted far more extensive explorations, completely demolishing mound C and thoroughly postholing the other two large mounds. Large sections of the village area were also opened up (Moorehead, 1932). The work of Rogan and Moorehead aroused much interest, sustained professionally to the present day, through their finds of exotic artifacts, now known to be paraphernalia of the widespread Southern Cult (Waring and Holder, 1945, pp. 1–34). The large repoussé copper plates in particular have been illustrated and described many times, and at least their motifs—warriors in bird costumes—are noted in every discussion of the Southern Cult or of North American Indian art. During Moorehead's excavations at Etowah, Margaret Ashley worked at other sites in the neighborhood, particularly Carters Quarters and Pumpkinvine Creek (Ashley, 1932).

After Moorehead's departure, the valley quieted down again for a few years, but woke up again in 1938 when Robert Wauchope conducted a survey for the University of Georgia, this time a survey with a large number of test excavations in a large number of sites. His preliminary report on this work, and a following paper on complicated stamp-design development (Wauchope, 1948 and 1950), have done much to clear up the assortment of puzzles and contradictions left from the earlier years. Following Wauchope, J. R. Caldwell did further intensive survey work for the Smithsonian Institution in the Allatoona Basin, about to be flooded by a power and flood control dam near Cartersville, a few miles upstream from the Etowah site.

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[1] Submitted December 1952.

For a time it appeared that Federal funds would not be available for salvage work in this basin, which extended 20 miles upstream to Canton. To afford a partial remedy for this unfortunate situation, the Department of Anthropology at the University of Georgia excavated the most promising site in the basin, under the direction of the writer. This report describes the results of that work.

To bring the history of archeology in the Etowah Valley up to date, the Smithsonian Institution investigators returned in 1949 and 1950. A large number of sites were excavated. Reports were prepared by the archeologists in charge, J. R. Caldwell and C. F. Miller.

The Wilbanks site appeared particularly promising for our one-shot salvage attempt for several reasons. First, Wauchope reported, from his test trench, a rather thick stratigraphic column (Wauchope, 1948, p. 205). Although he had worked out the basic ceramic sequence for the valley from the sequence at this and other sites, there was need for checking and expanding the outline. Second, a gully a few yards from the mound, which was the main feature of the site, had been producing, through the washing out of graves, artifacts related to the Southern Cult. Most impressive of these was a pair of carved stone earspools, one of which is illustrated on plate 45, *4*. We had a chance then to get a large ceramic sample in good stratigraphic context, and perhaps to tie the Southern Cult in to some specific segment of the cultural continuum represented by the ceramics.

As indicated in the preliminary report (Sears, 1950), we succeeded in a part of this program, particularly in working out a ceramic sequence with a large sample from well-defined strata. It was also possible to relate one segment of this ceramic sequence to the building period of a ceremonial structure, since the mound, the excavation of which consumed most of our time, was a collapsed earth lodge with a large amount of pottery on the floor. The Southern Cult relationships have proved to be a bit more difficult to handle, but it is reasonably certain that the cult had its peak during the second half of the total span of Etowah culture occupation of the site, as defined on pages 163–171, and almost completely certain that the cult in this area pertains to the Etowah culture rather than to the later Wilbanks (formerly Savannah) or Lamar Periods.

A tentative outline of the cultural sequence, concerned largely with ceramics, has been presented in the preliminary report. On the whole, this outline has been retained after study of the complete collection. A few changes have been necessary, but these are largely terminological. The present sequence, using a terminology for the Etowah valley agreed on by the writer and J. R. Caldwell, is as follows:

Protohistoric period	Lamar
Late Mississippi	Wilbanks
Mature Mississippi	Etowah Period IV
	III
	II
	I

There are several departures from standard usage in the terminology used in this sequence. First, the Wilbanks period has been called the Savannah period by Caldwell (1950, pp. 11–13) and Fairbanks (1950, pp. 143–144, 147). The writer engaged in a bit of circumlocution in the preliminary report (1950) and called it the period characterized by Savannah Complicated Stamp. A detailed discussion of the problems will be found on page 172. It should be pointed out here, however, that it has been necessary to recognize the complicated stamped pottery involved as a type definitely distinct from Savannah Complicated Stamp, although it is closely related and is diagnostic of the same time period. Secondly, even if the stamped type had been Savannah Complicated Stamp, the remainder of this north Georgia complex would still be much different from that characteristic of the Savannah period as it was originally defined on the basis of materials excavated at the Irene site (Caldwell and McCann, 1941).

The terms "protohistoric," "Late," and "Mature Mississippi" are of course the writer's subdivisions of the more generally accepted term "Late Mississippi" as used by Griffin (1946, pp. 37–95) and others. It is felt that this period needs subdividing, particularly for work in Georgia, because of the large number of discrete complexes at many sites, all classifiable as Late Mississippi in the present system. Generally speaking, such extant classifications as those of Griffin (1946) and Ford and Willey (1941) segregate the earliest Mississippian culture type, readily separable in most cases from the preceding Middle Woodland-Hopewellian manifestations. However, two readily distinguishable, although genetically related, culture types are classed together in the second Mississippian period, called Late Mississippi or Temple Mound II. This lumping is probably a product of the chronological scales used until very recently, which would not bring Early Mississippi to an end until about 1500, leaving so little time for other developments that spatial rather than temporal concepts were usually employed to account for observable differences. As noted above, it is immediately obvious in Georgia that spatial differentiation is only part of the answer. In the writer's belief, that same situation obtains in other parts of the Southeast.

"Mature Mississippi" is a term introduced by the writer, inspired by James B. Griffin, intended to be descriptive of the culture type and period indicated as the major type and period represented at the Kolomoki site in southwest Georgia (Sears, 1951 a). At that site, and in other cases, as we hope to demonstrate, we are dealing neither with Early Mississippi, well defined by Griffin (1946), Ford and Willey (1941), and others, nor with the protohistoric period which is invariably represented by the Lamar Complex in Georgia. Mature Mississippi is then considered to be the peak period of Middle Mississippi culture, the period of greatest artistic and ceremonial development wherever Middle Mississippi culture may be found. In Georgia and elsewhere it is the period of the Southern Cult and of the flamboyant expressions of a different ceremonial complex at Kolomoki (Sears, 1951 a, 1951 b, 1951 c). In Tennessee, Alabama, and neighboring regions it is the period of the Southern Cult again. It is separated, in broadest terms, from Early Mississippi by the development of elaborate ceremonial complexes; from the protohistoric developments by the reverse situation, the decline of this ceremonialism, lack of the great mound sites, and probably by villages that were smaller but much commoner. In any event, in most areas of the Southeast it is not too difficult to separate a climactic Mature Mississippi period from the related but ceremonially and artistically simpler culture of the protohistoric period. In this report, we have continued to use the term "Late Mississippi" to cover the Wilbanks period, since it seems to fit with neither of the other periods, actually being an intrusive culture in the Etowah Valley. Perhaps when we know it better, ascription to one of the other periods, mature or protohistoric, will be possible and will simplify matters.

The writer feels that he should point out here that he is fully aware of the inherent dangers of classification in archeology, particularly in that it often becomes an end in itself. Yet we must all engage in classification, in breaking our subject matter down into units that can be handled conceptually, if we are to progress. For analytical work in archeology, we need, and all create, terminological pigeonholes, each term representing a class. Without them, obviously, every manifestation in the Eastern United States would have to be taken into account for all comparative studies in the area. The point here is that as the bulk of known material increases, finer classification is needed to keep the bulk broken down into units that can be handled for comparative studies. Middle Mississippi is a culture type readily recognizable in many varying forms throughout the Eastern United States. The division into Early and Late eventually became a necessity, to provide pigeonholes for some of the variations as soon as it became obvious that the total culture type had two major sets of temporal, and consequently cultural, constants through the course of local variation. This fact was recognized some time ago by the provision of pigeonholes labeled Middle Mississippi Phase and Upper Mississippi Phase in the Midwest Taxonomic System (McKern, 1939). It now appears that it is possible, and equally necessary, to subdivide the Late Mississippi horizon, since sets of temporal and cultural constants for lesser divisions have become apparent. The total terminology reflects not only classification per se, but also cultural development in the Southeast over a long time period, recognizing the facts that while there is a basic culture type, Mississippian, shared by many ethnically discrete peoples, this basic type also changed, and the changes were participated in and contributed to by these diverse peoples.

Sixteen pottery types are recognized in this study, resulting from the analysis of 25,351 sherds. Except for a few sherds representing types traded from the Tennessee area, they are local products. Also recognized and documented are ceramic styles, modes of decoration, and vessel shapes which are found in other pottery types foreign to the Etowah Valley, and which consequently indicate relationship with the cultures productive of these other types.

In broadest outline, it may be stated that the Etowah culture, although subdivided into a number of periods, is in the Mature Mississippi period, and is roughly coeval with the Dallas (Lewis and Kneberg, 1946) and large-log town house (Webb, 1938) cultures of Tennessee; Kolomoki in southwest Georgia (Sears, 1951 a, 1951 b); Late Weeden Island on the Florida Coast (Sears, 1951 a); Moundville in Alabama (Moore, 1905); Spiro in Oklahoma (Orr, 1946); and others less well known but equally important. The Wilbanks culture, too, obviously shared in Middle Mississippi culture, as indicated by the basic vessel form and a few other items. It was not as specifically and definitely a participant at Etowah culture, however, at least not in the light of present knowledge. Lamar, while typically a South Appalachian Province product (as are the other two at CK–5) is very definitely a part of the rather uniform protohistoric culture of the Eastern United States and the Plains area—uniform as compared with the situation in earlier periods, that is. As did the other cultures in this time period, Lamar appears to have participated in a general leveling out process, a tendency toward cultural uniformity that is particularly evident in the ceramics.

References for pottery type descriptions available in print will be found in Appendix A. New descriptions are in Appendix B.

I wish to express my thanks to the many individuals and organizations, listed below, who have aided in making the excavations and this report possible: A. R. Kelly, who initiated the project and held down the home office; the district office of the United States Corps of Engineers for much helpful advice, the loan of a vehicle, and surveying equipment; Robert Wauchope and J. R. Caldwell for advice and suggestions on Etowah valley archeology; Smith Johnston, Jr., of Woodstock, for a place to live, for finding equipment, and for helping to find a crew; the crew, particularly for doing their best through some very bad weather in November and December of 1948; Miss Doris Pogue and Mrs. M. Albertson for their excellent work on the text figures included in this report; and J. Mahan, E. Klein, and students at Reinhardt College for washing the pottery.

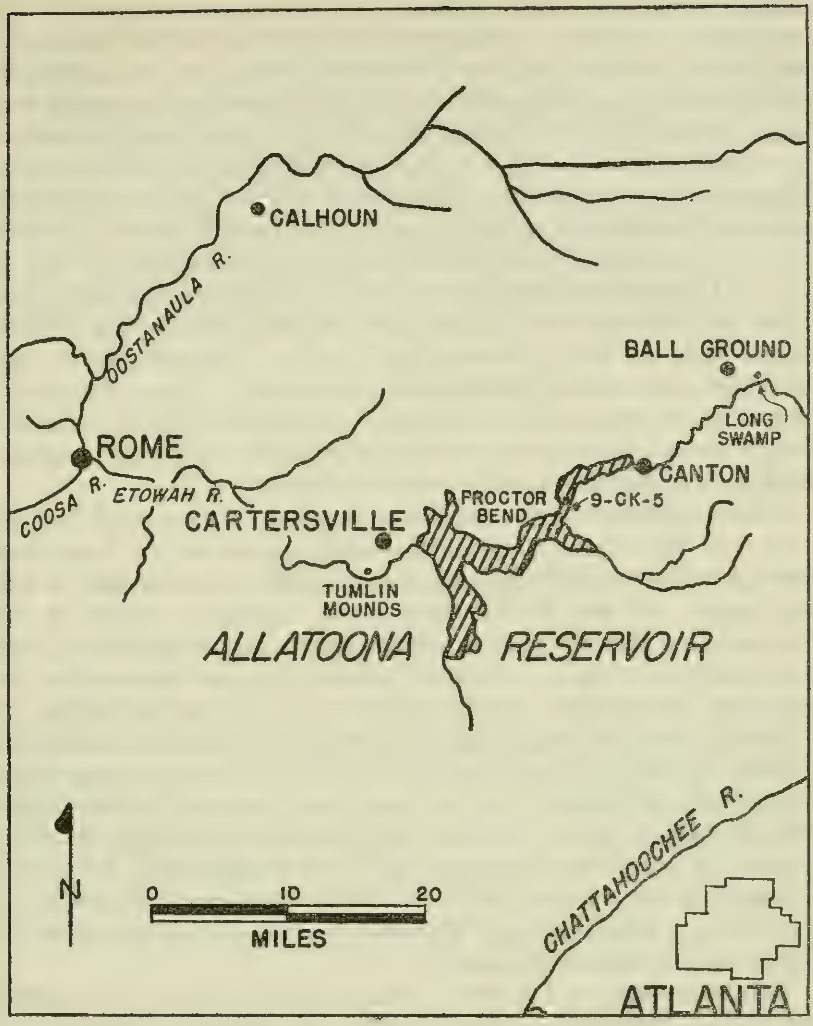
THE SITE AND EXCAVATION

Since this site, about midway between the towns of Canton and Cartersville, on the south bank of the Etowah River, was in the center of the Allatoona Reservoir, it is now under 80 to 90 feet of water.

The river made a bend at this point, and the area of occupation was nearly in the center of this bend, about at the mid-point of a crescent-shaped stretch of flat bottom land ½ mile wide and 1½ miles long. During the population peak in the Etowah period, the village covered approximately 80 acres. Near the center of this bottom-land crescent, on the hillside, a small stream issued from the hills and flowed along the base of the ridges to join the Etowah. However, the bottoms are so flat that in flood stage the Etowah often reversed itself and flowed across the center of the bottom land crescent and into the small stream. As this occurred half a dozen times in the past 50 years, a channel, normally dry, was cut that at times bisected the arc of fertile river bottom. A large number of graves were washed out in this stream bed or gully, some of them yielding the Southern Cult material noted in the Introduction.

The larger portion of our time and available funds were spent on the mound, which was the most prominent feature of the site. It occupied a dominant position in the center of the river side of the site, just a few yards in from the riverbank. It was hoped that this structure, approximately 220 feet in diameter and 6 feet high, would produce more cult artifacts, this time in tight archeological context. This hope was not realized, although the excavation did yield important information about both ceramic sequence and the type of ceremonial structure used by the Etowah culture.

The mound and some surrounding area was first staked out in a 5-foot grid system, oriented with the cardinal directions. Since the outward appearance of the mound gave us no indications of its type or inner structure, exploratory trenches were run in on the main grid axes. If we had carried these to completion, the mound would have been quartered. However, the appearance of a possibly undisturbed


CALHOUN
OOSTANAULA R.
BALL GROUND
LONG SWAMP
ROME
CANTON
COOSA R.
ETOWAH R.
PROCTOR BEND
9-CK-5
CARTERSVILLE
TUMLIN MOUNDS
ALLATOONA RESERVOIR
N
0
10
20
MILES
CHATTAHOOCHEE R.
ATLANTA

Map 7.—The location of CK–5.

core structure stopped excavation part way into the mound in the north, east, and west trenches.

All trenches were excavated in 5-foot squares. Usually excavation was done from the top down in 6-inch arbitrary levels, although at some points the appearance of sterile or otherwise distinct strata caused us to drop the use of arbitrary levels and to sack materials according to their relationship to these distinct strata. The stratification was then recorded in scale drawings of the profiles after a section had been completely excavated.

In the first trench (see profile, fig. 6, *a*) several facts became apparent. First, the refuse midden was stratified. Superimposed midden deposits of slightly different physical appearance yielded different types of pottery. The lower levels yielded sherds belonging to the Etowah ceramic complex (Wauchope, 1948), and the upper level yielded sherds diagnostic of the Wilbanks (formerly Savannah) complex (see pp. 172–176). There was also a representation, in wash or plow mixed layers, of the Lamar ceramic complex (Kelly, 1938). Alternate layers of sterile yellow river silt and black gumbo clay appeared, the layers angling in toward the mound center. Farthest in, we encountered a layer of soft gray clay (wavy end to profile, fig. 6, *a*). The nature of this stratum was not understood at all. Since it had not been disturbed by the plow, we attempted to leave it undisturbed until we did understand its function. Conceivably it might have been some sort of undisturbed core mound. It was clear that it had never functioned as a structure in and of itself for any period of time, since the outer surface retained the lumpy appearance produced by slightly patted down basketloads of soft clay.

Other trenches were run out along the edges of the mound, east and west, and then short north-south trenches were cut in from these, through midden and black sterile layers, until they contacted the gray clay again. It was finally determined, through a series of such trenches, that the construction was uniform all the way around, a core construction serving an unknown function; the core was made of soft gray clay, buttressed by alternate layers of black clay and yellow silt.

Most of our artifact sample was recovered from the midden excavated in cutting these trenches. After definite stratigraphy was recognized, particularly that an upper layer of softer brown midden was producing pottery stamped with curvilinear designs, a certain amount of work was done entirely in the midden area, designed to increase our ceramic samples from definite stratigraphic context. In particular, a large section of Wilbanks period midden, the upper soft brown deposit, was stripped off.

Before cutting in to the center of the mound, an attempt was made to get further information as to its nature by peeling off from its top all plow-mixed material. This paid dividends immediately, since the core of the structure then showed up as square rather than round. A central square of mixed soils became apparent, surrounded by concentric rings composed alternately of the sterile yellow silt and black clay soils that we had already encountered and sliced through in the trenches. With this information in hand, it seemed highly probable that we were dealing with the remains of a collapsed earth-covered structure, the black and yellow soils representing wall buttressing, the gray clay the inner wall construction, and the square of mixed soils in the center the collapsed roof fill.

Several other features showed up after the plow zone had been stripped off. One of these was a 5-foot-wide band of disturbed earth

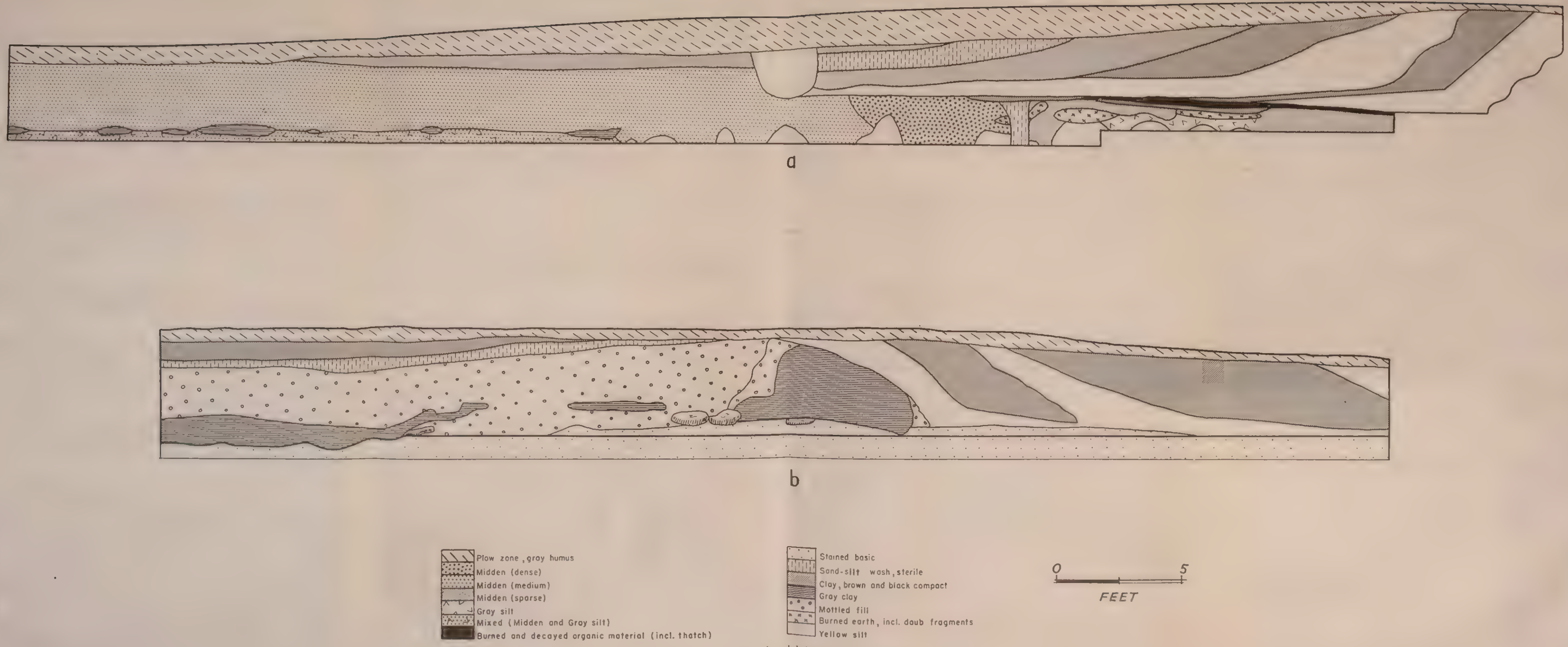

a
b
Plow zone, gray humus
Midden (dense)
Midden (medium)
Midden (sparse)
Gray silt
Mixed (Midden and Gray silt)
Burned and decayed organic material (incl. thatch)
Stained basic
Sand-silt wash, sterile
Clay, brown and black compact
Gray clay
Mottled fill
Burned earth, incl. daub fragments
Yellow silt
0
5
FEET

FIGURE 6.—*a*, Profile, main cut north of earth lodge; *b*, profile, main cut including roof fill and wall construction south side of earth lodge.

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about 50 feet long, running north and south. The north end of the band was close to the center of the mound, and the south end extended out past the outer edge of the wall buttresses. This was obviously the filled-in trench excavated by Wauchope (1948) in 1938. We cleaned the trench out, discovering that it had cut completely through the wall of the structure. One end was almost directly over the lower edge of the outermost buttress and the inner end was close to the center of the lodge floor. Inspection of the profiles thus obtained (fig. 6, *b*) verified our hypothesis that the mound was definitely the remains of a square, earth-covered structure which had collapsed.

Two other intrusions were found, each about 4 by 8 feet, placed well back toward the rear of the collapsed roof fill. They were handled very carefully, with the expectation that they would prove to be intrusive graves of the Wilbanks or Lamar periods. Final excavation showed one of them to be completely sterile, with its base on sterile basic soil. The base of the other was similarly situated, but it definitely was not sterile. It contained one pool ball, No. six! The writer has not been able to discover who dug these holes originally, but rather suspects that they date from Warren K. Moorehead's work in the Etowah valley. The fact that they stop sharply on undisturbed basic soil after cutting through the floor of the lodge indicates that they were not the work of a complete amateur. Much as the "six ball" is appreciated, one wonders why it wasn't the "eight ball."

Once we were sure of our ground, the collapsed roof fill was removed en masse, using Wauchope's cleared trench as a wheelbarrow route from the inner squares and throwing dirt from the outer edges out onto the mound slopes; from here it was removed by a Ford tractor using a scoop. Since it appeared, from the profiles in Wauchope's trench, that the outer edges of the square of collapsed roof fill were just over the inner edges of the gray clay buttresses (fig. 6, *b*), cutting away the roof earth was started in the center of the floor and carried to the outer edges. In the beginning we stopped cutting at the first appearance of the gray clay buttresses, but finally it was necessary to cut into these until the molds of the large horizontal logs used as a core for the walls were encountered (see frontispiece, fig. 5). This became necessary because large sections of the wall had collapsed after the logs had rotted.

Several inches of undisturbed roof clay were left on the floors as cutting proceeded outward. This clay served to protect the floor for a final overall cleaning.

Through the study of the profiles in Wauchope's trench, and cuts into the gray clay buttress from inside, we discovered that the construction of the edifice had started with a square outline of very large logs, averaging 2 feet in diameter. These were propped into a level horizontal position with slabs of rock. After placement, the logs were covered with the gray clay, which sloped off gradually outside but formed an almost vertical wall, 2 to 3 feet high, on the inside (fig. 6, *b*, and frontispiece, fig. 5).

As we started to clean the last few inches of roof fill off the floor, two sets of objects showed up. First, there were large numbers of rocks scattered around with no apparent arrangement. Second, lying on the debris constituting the lodge floor before the roof collapse, molds of horizontal poles, 4 to 6 inches in diameter were found. These forms were outlined by and preserved by the hard clays that fell from the roof. Most of them contained not only mold, but also large fragments of wood that had not completely decayed. Since these must have been the rafters that were covered by the clay roof after they collapsed, the fill was sliced to trace them out. They are plotted in black on figure 7. It will be noted that with one exception they run north and south. Many smaller fragments, only 2 to 3 inches in length, were also observed. Usually we were not able to plot them because of difficulty in working in the hard clay, which had a tendency to lift in blocks from the soft debris on the last aboriginally utilized floor surface. Without exception, however, these small fragments also ran north and south. Clearly, then, the roof was of the gable type as illustrated in the artist's reconstruction (frontispiece, fig. 5).

There is little doubt that these rafters had fallen almost straight down and had broken as they hit the floor. In a few cases we were even able to tell which particular rocks had caused specific breaks in a rafter.

At this time another feature of the method of roof construction became apparent. As the excavation walls were sliced down in an attempt to approximate the original inner-wall line, holes slanting out and down were observed at a number of points at the top of the gray clay inner-wall buttress. These demonstrated clearly that the rafters had been held in the proper angled position across the top of the large horizontal logs used to outline the structure, and then had been plastered into place with the gray clay (frontispiece, fig. 5). In the few cases where we could check accurately, the location of these holes coincided with the position of rafters on the floor.

The function of the rocks on the floor must remain uncertain. Although there were enough of them to construct an encircling bench as was done at Peachtree (Setzler and Jennings, 1941, pl. 6, *A*), there is no evidence at all for such a reconstruction. I rather incline to the view that some of them were used in piles as extra props under the rafters. Probably in this way they formed a partial inner-wall lining. Apparently scattered rocks are of common occurrence in structures of this sort (Webb, 1938, pp. 34, 41, 42, 44, 101, 153, 154, 155, 162; pls. 18, 19, 108, 109, 112), although their function has never been precisely determined.

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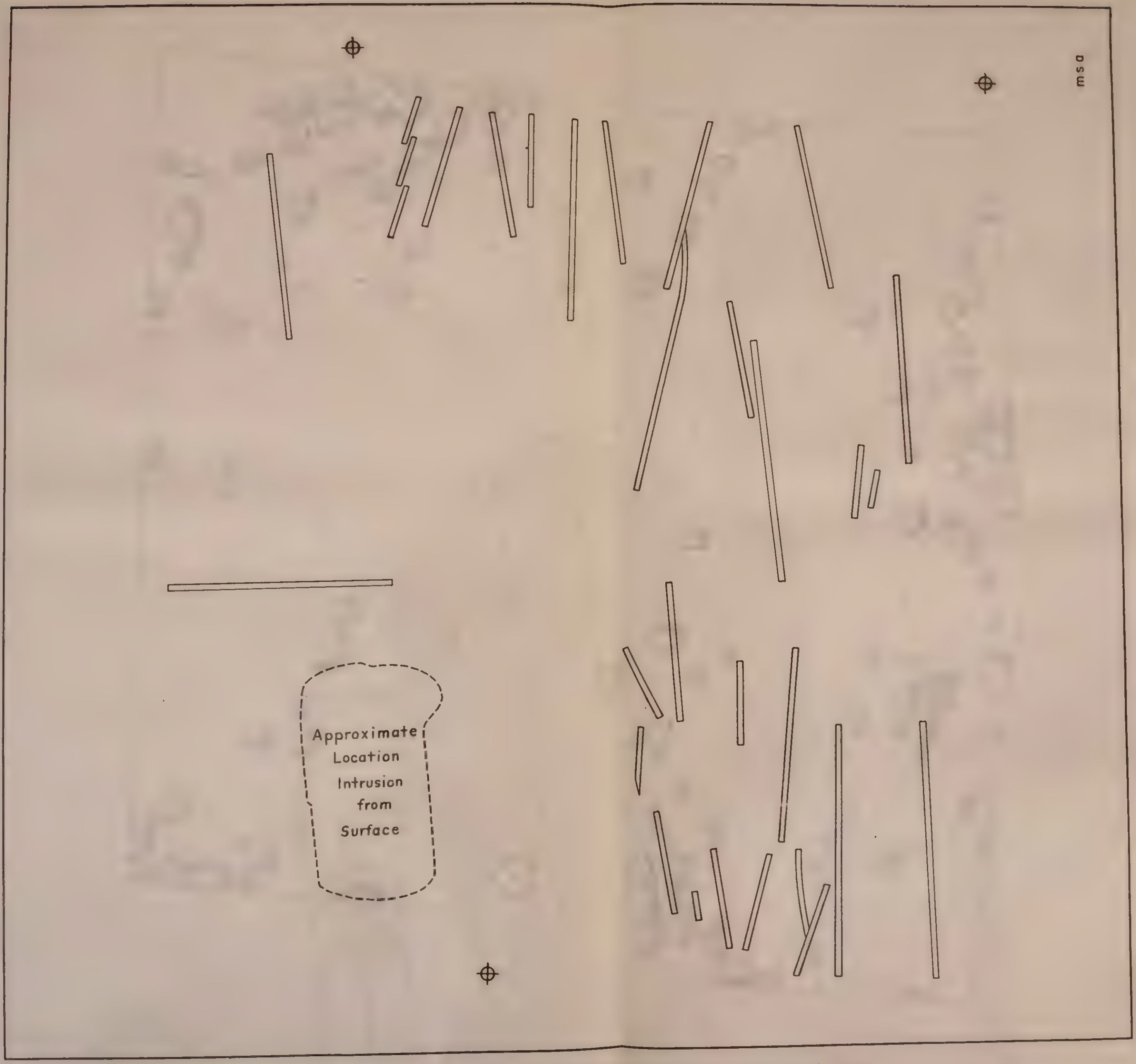
msa
Approximate
Location
Intrusion
from
Surface

Figure 7.—Floor plan of earth lodge. (Scale: Distance between 2 symbols (⊕) at top of figure equals 40 feet.)

The aboriginally deposited material on the floor differed in composition from the midden deposits outside of the building, probably indicating considerable difference in the type of usage producing the deposits. There were, of course, large numbers of sherds on the floor, including most of our sample of the ceremonial type, Hiwassee Red on Buff. Most of our pipes also came from here (pl. 44, *1* and *2*). Except these artifacts, the bulk of the floor deposit was wood ash, with a fair amount of charred bone. Very little vegetable matter had ever decayed on the floor while the structure was in use. The middens outside, on the other hand, were characteristically a rich black in color, indicating high percentage of decayed organic matter.

A final note on the construction of this edifice follows: No vertical posts were used in the walls. This was checked in a half dozen areas, although the total wall buttresses were not removed. All postholes for vertical posts were inside the lodge and inside the buttress walls (fig. 7). These may represent vertical posts used to support the roof, perhaps propping up a ridgepole. Even this is not certain, however, although an inspection of the floor plan (fig. 7) will indicate that it is possible. Other posts, particularly the smaller ones around the edges, may have supported benches, etc. A more complete description of the structure, as reconstructed, will be found in the next section.

THE EARTH LODGE

Because of structural peculiarities, its dominant position in the site, and relationship to other earth-covered ceremonial structures excavated archeologically and observed during the early historic period, the earth lodge merits special attention. Features of construction observed in excavation were described in the previous section, and are illustrated in figure 7, the floor plan, and in two profile drawings, figure 6. A pen-and-ink reconstruction is included as the frontispiece (fig. 5).

Construction of this edifice may be summarized as follows:

Rather large logs, averaging 24 inches in diameter, were laid on the clean-swept ground surface. They formed a square approximately 45 feet to a side, with the logs held in position and leveled with slabs of rock. If a ridgepole was used, it must have been put up next, supported by two posts at opposite ends of the structural midline. However, there is no certainty that these vertical support posts were used. Rafters, made of poles 4 to 6 inches in diameter, were placed in the properly angled position, lying across the large horizontal logs with their outer ends on the ground surface and their inner ends touching or crossing in an east-west line that was to be the roof peak. If a supported ridgepole was not used, a pole may have been lashed into place, secured to each pair of rafters as they came in from the north and south sides of the building (see frontispiece, fig. 5). This would line up the points of juncture, prevent slippage, and aid in taking the thrust out toward the butt ends of the rafters. It did appear that, structurally, no vertical posts were needed to support the roof. The design was so efficient that the thrust of the roof weight was out and down the main axis of the rafters. A light ridgepole lashed into place would serve mainly to prevent slippage.

After all the rafters were in place, the buttress of gray clay was built, cementing the rafters into place against the ground and against the horizontal wall logs. The inner side of this buttress was kept smooth and vertical since it served as a low interior wall for the building.

Presumably light poles, canes, or reeds were woven between the rafters at about this point in the construction. The rafters at this time would have had sufficient weight of gray clay buttress on their outer ends to support the weight of the workmen. Certainly a solid mesh of lighter materials was made to support the final earth covering. The debris resulting from the decay of this light mesh formed a 1-inch brown layer on top of the artifact-containing debris of the final aboriginally utilized floor.

The next addition was yellow river silt, completely sterile, free from organic materials and brightly colored. This formed an embankment on the outside of the lodge (figs. 5 (frontispiece) and 6) and covered the roof with a layer about 30 inches thick. When the roof finally collapsed, the portion of the yellow silt which fell inside took on a different appearance from that in the outer embankment. Contributing to this difference in appearance were fragments of organic matter, probably the remains of grass roots and pieces of the roof mesh, and some mixture with gray clay similar to that used in the main wall buttress. This clay may have been used as a ceiling plaster, since a fair amount of it was mixed with the silt, in units of various sizes. Obviously it had fallen with the yellow slit, when the rafters gave way under the load.

Immediately after the yellow silt, another layer was added, composed of tough, dead black clay whose only source is half a mile away across the river. This layer added another embankment to the wall and again extended partly over the roof. Apparently the layer over the roof was only 3 or 4 inches thick, although it is difficult to be certain because the top of the mound was planed off at one point in its history to level it for the erection of a barn.

Two more layers were added to the outer walls of the structure, another layer of yellow silt and a final layer of black clay (figs. 5 (frontispiece) and 6), each completely sterile. Owing to the removal of the top of the mound noted above, it is not certain whether or not these layers extended over the roof, although I am inclined to believe that they did not because of certain minor peculiarities in the stratification observed in the corners of the structure.

Quite probably, the interior of the gray clay inner walls was partially lined with the flat stones shown on the floor plan. They do tend to be concentrated near the walls, and might have helped to support the rafters. If built into compact benches, they would not have scattered as widely as they did when the building collapsed (fig. 7).

It will be noted that no mention has been made of a door. No evidence for one was found. Entrance was either over the buttresses and through the lower part of the roof, or Wauchope (1948) came in through the door with his trench in 1938. The first hypothesis is the most probable, particularly since definite doors were missing in the large-log and small-log town houses of the Norris Basin (Webb, 1938).

Apparently, square ceremonial lodges covered with earth were relatively common throughout the Southeast during the Mississippian period. There are also structures, apparently related, that had thatched roofs and walls banked with earth. As noted below, the construction of such edifices without using rows of vertical posts to form the walls is decidedly unusual, being paralleled in only one instance.

The earliest earth-covered structures in the Southeast, at least east of the Mississippi River, are those at the Macon Plateau site. Fairbanks (1946) reports briefly on these, describing one in some detail. This building, circular with molded clay seats and altar or chiefly seat, used a four-post center arrangement and buttress walls as much as 21 feet thick. No wall posts were used. Other, similar lodges on the site, apparently later, did add wall posts to the basic circular structure. The Macon structure then provides a parallel for our type of construction without wall posts. However, the total Macon structure differed considerably from that at CK–5 in the use of four center posts, a long entrance passage, the circular shape, and the molded clay seats. Since the Macon lodge was built in the Early Mississippi period whereas the CK–5 structure falls toward the end of the Mature Mississippi period (see p. 136), a lineal relationship may be inferred.

Another center for earth-covered ceremonial structures is Tennessee. Of the two types reported in the Norris Basin (Webb, 1938), the earlier small-log town houses are related to the Macon structures, the relationship being attested both by structural similarities and by the associated ceramic complexes.

The small-log town houses are similar to the Macon structures in the possession of baked-clay "furniture," usually just one large seat and an altar in Tennessee rather than the elaborate setup found in

Macon. The buildings at Macon and in the Norris Basin were finally burned for ultimate disposal. They differ in that all the small-log town houses are square, as are all such early edifices recovered archeologically in the Eastern United States except the Macon specimen. The Norris Basin houses also differ from the Macon building in the lack of a four-post center arrangement, a lack which again allies them to the CK–5 town house and others in the Southeast. As Fairbanks (1946) suggests, this four-post arrangement is a typical Caddo feature, and may thus indicate that Macon drew first from the probable homeland of the earth-covered house. Other ceremonial structures that belong in this Early Mississippi period are those at Hiwassee Island, which belong in the Hiwassee Focus (Lewis and Kneberg, 1946). Although they are generally similar to the small-log structures in shape, wall construction, and in the use of molded clay fireplaces and seats, Kneberg and Lewis do not believe that these buildings were earth covered. There is a relationship evidenced between Macon, Hiwassee, and the small-log town house cultures through the baked-clay furniture, even if earth were not used for a roof covering at Hiwassee. Participation of these three cultures in a common basic culture is also indicated by shared ceramic traits, particularly noded loop handles.

On the whole, these earth-covered or earth-walled structures of the Early Mississippi period in the Appalachian region of the Southeast differ from the CK–5 structure in the use of clay furniture and in destruction by burning. Then too, all of them, except certain Macon examples, used posts in the exterior walls as contrasted with the CK–5 construction method which utilized earth buttress walls.

Ceramic evidence already briefly outlined (p. 134) and to be presented in detail in following sections places the manifestations at CK–5 in the Mature Mississippi period. Thus, we might expect that the earth-lodge structures most closely related to the one at CK–5 would be the large-log town houses of Tennessee (Webb, 1938). These buildings, successors to the small-log edifices in their own area, vary from their Tennessee predecessors in the direction of our Etowah Valley example. The large-log town houses do make use of vertical posts in their outer walls. However, these houses were square, lacked any clay furniture, and were finally destroyed by collapse or were pulled down rather than burned (ibid.). Since there is some evidence for cultural connection, in this general time period, of the Etowah culture with that of the Tennessee-Cumberland area, and, considering similar features of lodge construction, there seems to be little doubt that the CK–5 earth lodge and the large-log town houses represent mutual participation, with local variations, in a common culture pattern.

Two other contexts for ceremonial buildings might be mentioned here. First is the Peachtree Mound (Setzler and Jennings, 1941). Judging by the descriptions, drawings, and traces of earth-buttress construction in several of the photographs (ibid., pls. 2, *b;* 3, *b*, *c*), the writer has little doubt that the basis for the Peachtree Mound was a collapsed earth lodge of the type found at CK–5 and in the Norris Basin. Feature 29 includes most of this structure, although the writer believes that buttress walls should have been added to the description in the Peachtree report. It is seriously doubted however that the reconstruction of the stones found in Feature 29 of the Peachtree Mound into an encircling bench is correct. The stones as found (ibid., pls. 5, *b;* 6, *b*) do not appear to warrant such a reconstruction, and the construction of such features from imperishable materials is apparently confined to the Early Mississippi period.

There is little doubt, however, that there were later additions to the Peachtree Mound, which may quite possibly have been made to adapt it to use as a substructure mound at some point in the mound's history. The ceramics from the Peachtree site are a mixture, including everything from Deptford Check Stamp through Lamar types to the apparently dominant late Check Stamped type (ibid., pl. 35), which may quite possibly represent a 17th- or 18th-century Cherokee pottery type. This latter pottery would belong to the period of substructure mound usage, while Lamar or pre-Lamar types would represent the ceramics of the period of earth-lodge usage.

In attempting to relate this Etowah Valley ceremonial structure to obviously related earth-covered structures known from the early historic period, we are troubled by the same fact that caused Webb a great deal of grief (Webb, 1938, p. 222). That is, while our latest archeologically excavated structures are square, with the exceptions to be mentioned, all of the earth-covered council houses or town houses described in the Southeast during the 17th and 18th centuries were round. We need not repeat here the often-repeated quotations from Hawkins, Bartram, Adair, et al. It is sufficient to point out that round or octagonal earth-covered lodges or council houses were a central feature of villages occupied by Muskhogean- and Cherokee-speaking peoples in the 17th and 18th centuries.

Very few cases of round ceremonial structures are known from archeological context. Probably the earliest one is that found on level D of the mound at Hiwassee Island (Lewis and Kneberg, 1946, pl. 19). Although it was not earth covered, this building was in all probability a council house for public gatherings. However, this structure was in use at the very beginning of the Dallas period and was apparently replaced later by square structures (ibid.). Another building of this type was found at the Irene site. This structure also was not earth covered, but it is almost certainly an example of the type of council house described by early travelers, and is a rather large specimen. However, it belongs in the Irene ceramic period (Caldwell and McCann, 1941, pp. 30–31), and thus it is practically historical, and is not too much help in our present problem.

Since most earth-covered structures of the fully prehistoric period are square, except for the very early small ones of the Macon site, and all such structures in the historic or late protohistoric period are round, we may infer that a shift in type took place at the end of the Mature Mississippi level, or sometime during the protohistoric period best characterized in Georgia by the Lamar Horizon.

This shift from the early round or square lodges, rather small, with definite seating arrangements for all of a very small group, or at least for a few individuals in a small total group, to larger structures without the definite seating arrangement and a larger total capacity, culminating in the very large structures of the late protohistoric and early historic periods, has rather interesting social implications. Assuming that all these buildings represent the structures wherein the deliberations and ceremonies associated with governmental processes took place, the specialized small structure at Macon indicates participation in government by a very limited group, the deliberations and ceremonies not being available to the general public, not even at the audience level. One individual, for whom a special seat in a commanding position was supplied, must have been dominant. Such a period of autocratic rule, probably supported by supernatural sanctions controlled by the priest-chief, was succeeded by one in which there was less recognition of a paramount place for one individual, no special position or seat being marked out. The total structure was also larger, implying that more people took part in affairs, either as participants or as an audience. Finally, in the latest period of all, structures are large enough to accommodate a very substantial portion of the population residing in a given community. We know historically that prominent individuals, politically speaking, had seats in dominant positions, but the entire community was admitted to, and to a degree participated in, the deliberations of the ruling body and the ceremonies performed for the good of the total society. The total development then, as indicated by these earth-covered buildings, is from a theocratic government participated in by a small group, to a much more democratic government, in which most adult males at least had a voice, deliberations being open to all.

The CK–5 lodge may be placed at the midpoint in this sociopolitical development. A definite group of rulers is indicated, probably a superior class, who at the same time were not completely out of reach of the people.

The developmental step after this was taken by the Creeks with the development of the square ground, having places for each clan. As utilized by the Creeks, this arrangement allows for participation in ceremonies by the total populace.

THE ETOWAH PERIOD

Although groups representing three distinct cultures used CK–5 at various times, it is dominantly a site of the earliest of these three, the Etowah culture. The following Wilbanks period is represented by a much less intensive occupation, and the Lamar culture by a lighter one still.

There are three units which must be considered in a discussion of the Etowah period and its ceramics. In chronological order the first is phase A, physically represented by the lowest levels in the midden deposit outside the mound (fig. 6, *a*) Phase B, the upper levels of the midden containing Etowah ceramics, and, finally, the materials directly on the floor of the earth lodge. This last unit is actually a representation of phase B ceramically, but needs separate consideration. We shall take these up in chronological order, starting with phase A, the oldest. Percentages and charts used to define the pottery complexes and to illustrate their similarities and differences will be found at appropriate points, supplemented by a comparative chart at the end of this section. Formal descriptions of pottery types not heretofore defined are in a special section at the end of this report. For other types, appropriate references will be found.

PHASE A

In the first cut taken into the slopes of the mound, from the north side, the lowest stratum containing artifactual materials was physically indistinguishable from higher levels of the same midden. This was discussed in the preceding section and may be observed in figure 6, *a*. However, since this stratum sloped across the trench in an east-west direction, and since we lacked time and funds to strip out a pure sample, there is some mixture with later materials. The mixture is slight, fortunately, as checked by sherds taken from a number of small refuse-filled depressions into basic soil that were totally within the confines of the trench. The ceramic complex for this earliest period having been determined from this stratigraphically isolated lower level sample, both as to types and styles represented and their relative frequencies, it was possible to group collections from other units with this original sample. In all cases, these other units were from the lowest levels in their particular portion of the site. Apparently, the earliest occupation was scattered, so that while refuse of this period is earliest when found, it does not appear in all stratigraphic cuts. The figures given below are based on the total combined sample.

Eight pottery types, as follows, are represented in this earliest period of occupation:

Etowah Complicated Stamp **
Hiwassee Complicated Stamp
Etowah Red Filmed *
Hiwassee Red Filmed
Etowah Polished Black *
Etowah Burnished Plain *
Etowah Plain (Wauchope's Etowah Plain Smooth) **
Sixes Plain **

The types marked with an asterisk are defined for the first time in this report. (See Appendix B.) Those marked with a double asterisk were introduced into the literature, but were not formally defined, by Robert Wauchope (Wauchope, 1948). Formal type descriptions are included in Appendix B for these types.

Etowah Red Filmed, Etowah Polished Black, and Etowah Burnished Plain have not heretofore been recognized, but I have used "Etowah" as the first term in their titles to hold the series together terminologically. It is certain that all of these types occur together as a definite complex during the middle period of Etowah Culture at least, having been recognized by the writer in a number of collections, including collections from the Etowah site itself and from Ball Ground or Long Swamp, Wauchope's CK–1 (ibid.).

The total sample from Phase A was 3,958 sherds, definitely lopsided proportionately in the direction of Etowah Complicated Stamp, 56 percent of the total sample. The plain types together totaled 1,536 sherds, or 39 percent of the total. The situation is even more lopsided when we consider only decorated pottery. Of the 2,395 sherds decorated by one technique or another, the types represented are Etowah Complicated Stamp, Etowah Red Filmed, Hiwassee Red Filmed, Etowah Polished Black, and Hiwassee Complicated Stamp. Of the 2,395 sherds in five types, 2,208, or 92 percent, are specimens of Etowah Complicated Stamp.

Within the type Etowah Complicated Stamp in this phase we are able to distinguish five stamp motifs, the specific motif being discernible on 560 of the 2,208 sherds. Only those cases are included in which we were absolutely certain of the motif. The variation in the occurrence of the specific design motifs within this pottery type is as important in the study of Etowah ceramic chronology as is the variation through time in the occurrence of the several specific types. In round figures, the following tabulation outlines the proportionate occurrence of the several motifs in Phase A. Percentages are of the 560 sherds bearing recognizable motifs (× = 5 percent to the nearest 5 percent):

Motif:	*Percent*	
2-bar diamond	43	××××××××××
2-bar ladder base diamond	28	××××××
1-bar diamond	3	×
3-bar diamond	4	×
Line block	3	×

"Diamonds" are the motifs referred to by Wauchope as "superimposed triangles." As he points out, reference to them as superimposed triangles or concentric diamonds is all a matter of point of view (ibid., p. 18). The writer prefers to use "diamonds" simply because the one term covers the total design rather than half of it. One, two, or three bars refers to the bars which run through the diamonds horizontally, bisecting them. (See figs. 8 and 9 and pl. 37, *1–4*.) "Ladder base diamond" is a term introduced by Wauchope (ibid.), referring to concentric diamonds in which all the lines are continuous. Thus a "ladder" is formed at the point where the two horizontal lines cross the angled lines of the diamonds. (See figs. 8 and 9 and pl. 37, *5*.) Line blocks are the designs formed of alternate blocks of parallel horizontal or vertical lines. (See figs. 8 and 9 and pl. 38, *1*, *2*, and *4*.) In many cases, the motif on specific sherds was definitely diamonds, but the exact type was uncertain. These account for most of the difference between the total of the percentages given, 86, and 100 percent, in the tabulation given above.

Description of the total vessel shapes for this pottery type, and of the several rim forms, will be found in the type description in Appendix B. There is no variation from period to period in vessel shape, nor in the occurrence of the rim forms. A check was made for relationships between specific motifs and rim forms in an attempt to find relationships that might have temporal significance, but none exist.

Photographs and drawings of sherds and vessels of this type have been part of the literature for a long time, starting with Holmes in 1892 (Holmes 1903, pls. 114–117). However, until Wauchope's work, Etowah Complicated Stamp was usually considered a part of the Lamar Complex, perhaps a regional variation. This was probably in large part due to Ashley's analysis and drawings in her report in "Etowah Papers" (Ashley, 1932). I have also heard this type referred to frequently as a variant of Napier Complicated Stamp, which it apparently was considered to be when Macon pottery was being analyzed. The first isolation of it as a distinct pottery type was by Robert Wauchope, who also contributed to our understanding of the evolution of the type (Wauchope, 1948). Another statement of its importance and position as part of the total Etowah Complex was the recent one by Fairbanks (Fairbanks, 1950). A consideration of the position of this type in total Southeastern ceramic history, particularly in relationship to the South Appalachian province, will be found in the conclusion to this report. I do wish to emphasize the fact here, an emphasis necessary because of the misconceptions noted above, that Etowah Complicated Stamp is a distinct pottery type, not an illegitimate Lamar or Napier offspring, and that it was the dominant pottery type during the Mature Mississippi period in the northern part of the South Appalachian province.

The only other complicated stamped pottery type present in Phase A was Hiwassee Complicated Stamp (Lewis and Kneberg, 1946, p. 104). We found only 79 sherds, 3.3 percent of the total decorated ware. Within the type, 10 sherds were decorated with two-bar diamond motifs and 12 with the ladder-based diamonds. The proportionate occurrence of the motifs is not too different from that noted above for Etowah Complicated Stamp, from which this type differs only in that it is shell tempered rather than sand tempered. Presumably, since it does occur at Hiwassee Island, it is a trade ware here. However, since its relative importance in the Hiwassee Island Complex is about as low as it is here, I am not too sure that its presence at CK–5 does indicate trade. It may be a trade ware; it may represent use of the local stamps on the shell-tempered paste that was used in this period in the type Sixes Plain (see below, p. 194); or, as a remote possibility, it may be an importation from a third and unknown source both at Hiwassee Island and at CK–5.

Of the last three minority types in the decorated ware, two are native and one, the scarcest, is probably an import. Etowah Red Filmed, either red slipped or painted with the compressed globular bowl as the dominant form, is represented by 36 sherds, 1.5 percent of the decorated ware. Closely related to this type is Hiwassee Red Filmed represented by only 11 sherds. Both red filmed types may be considered the local representatives of the widespread Mississippian red wares. Finally, we have 53 sherds of Etowah Polished Black, a black-slipped and polished type that has the plate, bottle, and bowl with notched, added rim strip as its commonest forms. The vessel forms in particular used in this type clearly show relationship with Mature Mississippi culture through the total Southeast, in particular with the nearby Dallas culture of Tennessee.

There were 1,563 sherds undecorated. While some proportion of these are undoubtedly from the unstamped basal portions of decorated vessels, it may be presumed that the larger portion of them are from plain vessels. Included in the total assemblage of plain sherds are specimens of three pottery types, Etowah Burnished Plain, Etowah Plain, and Sixes Plain.

The majority type, Etowah Plain (Wauchope's Etowah Plain Smooth) (Wauchope, 1948, pp. 205 ff.), 52 percent of the total plain ware, is simply the undecorated variant of Etowah Complicated

Stamp. Vessel forms, rim shapes, and interior finish are identical to those of the decorated type.

Next in importance, 28 percent of the plain ware, is Sixes Plain. This is the "unnamed shell-tempered type" of the preliminary report (Sears, 1950, p. 139), the name being taken from a small community nearby. As I pointed out there, this type is probably closer to Dallas Plain than to any other described type, particularly since in several cases rims have been pulled up into four large points, a feature considered as a Dallas diagnostic by Lewis and Kneberg (1946, p. 100). Vessel forms are about the same as those in Etowah Plain. The formal type description will be found in Appendix B, page 194.

A last type of plain pottery, not heretofore recognized, is Etowah Burnished Plain. The formal description will be found on pp. 190–191. We may point out here that the characteristic features are thin vessel walls and burnished exterior surfaces, and that the compressed globular bowl with direct unmodified rim is the commonest vessel shape. Other vessel shapes are plates, bottles, scalloped rim bowls, and possibly a few jars. There is some overlap in the body sherd counts between this type and Etowah Plain, of course, since vessels of that type have surfaces ranging from decidedly rough to well smoothed. However, almost all of the rims from compressed globular bowls are burnished, and the greater number of burnished body sherds are thin, have a mottled reddish-brown surface, and are more sharply curved than unburnished plain body sherds, indicating the prevalence of the small compressed globular bowl in the type.

Although this ceramic complex is on the whole a specialized one centered in the north Georgia area, there are a few specific items found in Phase A deposits that serve to relate the assemblage to the widespread Mature Mississippi Culture Horizon. Two strap handles from two different vessels were found. Apparently they were from Etowah Plain pots, but may have been from stamped vessels. Strap handles are of course a distinctly Late (read Mature) Mississippi feature as contrasted with the loop handles, noded or otherwise, of the Early Mississippi Horizon as exemplified by the Macon, Hiwassee, and small-log town-house complexes.

Just as specifically late in Mississippian ceramics are bottles, Phase A deposits yielding neck or shoulder sherds from 12. Two were Etowah Red Filmed, 2 Etowah Plain, 1 Sixes Plain, 3 Etowah Burnished Plain, and 4 Etowah Polished Black. Apparently both the tall and narrow-necked species and the wider-mouthed variety, the latter typical of Moundville (Moore, 1905), are present.

Strong evidence of participation in Mississippi culture of the mature variant is afforded by sherds from seven plates (see pl. 41, *1–4*). One of these was of the Etowah Polished Black type, 5 were of the standard plain ware, and there is 1 Etowah Burnished Plain specimen with scalloped lip. Also present were rim sherds from three bowls with slightly flaring and scalloped rims, two plain and one burnished plain. These are apparently rather common in Dallas, although not as diagnostic of the Dallas horizon as the bowls with notched added rim strips. Although there were none of these latter in Phase A deposits, we did find one human face adorno (pl. 42, *6*). This is clearly broken from one of the bowls common in Dallas and related Mature Mississippi Cultures, which have four of these faces spaced evenly around the rim of an open bowl with notched added rim strip. Several of these are illustrated in the Hiwassee Island report, and Holmes (1903, pls. 47–50) illustrates a great many more.

Finally, in this inventory of sherds with specific Mature Mississippi connections, we have two rim sherds that apparently are from blank-faced effigy water bottles (pl. 41, *7* and *8*). These of course, one Sixes Plain and one Etowah Plain, are not necessarily late, since they do occur in the pottery type Halstead Plain at Macon Plateau.

The only artifacts of any consequence found in Phase A deposits were fragments of two pulley-shaped stone earspools (pl. 45, *3*) and a small chisel, similar to those from the earth-lodge floor illustrated on plate 43, *3* and *4*.

Further discussion of this early period of Etowah ceramics will be found at the end of this section. Since there are three distinguishable Etowah units, differing among themselves, discussion of the differences as well as of the relationships individually and collectively to other manifestations will be more in place at that point.

PHASE B

Phase B, as previously pointed out, is stratigraphically distinguishable as the upper part of the midden deposit in the main trench (fig. 6, *a*), lying under a Wilbanks period stratum that was distinct in color and texture. In most other cuts into the midden deposits surrounding the mound, we found that Phase A deposits were lacking, the total thickness being made up of Phase B deposits with superimposed strata bearing Wilbanks period or Lamar period materials.

Since a greater bulk of midden was excavated for Phase B than for Phase A, we have a large ceramic sample for the latter period, a total of 8,367 sherds. Again Etowah Complicated Stamp is decidedly the dominant type, with 5,793 sherds comprising 69 percent of the total pottery. Other types present in this phase are Etowah Red Filmed, Etowah Polished Black, Etowah Plain, Sixes Plain, and Etowah Burnished Plain. In very small quantities we also find Hiwassee Complicated Stamp and Wilbanks Complicated Stamp. A few types not present at all in Phase A appear, but there are only a few sherds of each. Particularly important in this category are Etowah Incised and Hiwassee Red on Buff.

The major differences between ceramics of Phases A and B are in the proportionate occurrence of the various motifs in Etowah Complicated Stamp (fig. 8), particularly in that a new motif, the filfot cross, is added. There is also a much lower proportion of shell-tempered plain ware, only 6 percent.

The two bar diamond motif, appearing on 38.9 percent of the 650 sherds bearing recognizable motifs, still occupies the position of prominence. The ladder-based diamond has dropped to only 1.6 percent, however, being replaced by a number of others. A new motif, the filfot cross, is up to 13.6 percent in this earliest period of its occurrence as a design motif in complicated stamped ceramics. The related line block stamp (fig. 9) increases in popularity at this time, up to 20.7 percent as against the 3 percent of the earliest period. Various other modifications of the diamond motif become more important here than in Phase A, although most of them appeared there in small quantities. The one-bar diamond is 3.4 percent, three-bar diamonds increase to 6.1 percent, and various other combinations of one, two, and three line sets, each running at right angles to another and thus forming a central cross, reach a total of 2.2 percent. Generally it may be said that both in diamonds and in other motifs, Etowah Complicated Stamp in Phase B is characterized by greater variability than in Phase A.

The filfot cross is a design of particular significance. Until Wauchope (1948, p. 207) noted its appearance in the Etowah complex, it has been considered as more or less a Lamar period diagnostic, particularly of the Irene variant (Caldwell and McCann, 1941, pp. 46–47). However, there is no doubt that its occurrence here in the Etowah complex is its earliest appearance as a decorative motif in Georgia complicated stamp ceramics, a thesis strengthened by the fact that all of the crosses here are of the simplest possible type (figs. 8 and 9 and pl. 38, *4* and *5*). A much greater elaboration is achieved later in the Lamar period, all of the specialized filfot crosses in Lamar, however, developing from the simple beginnings here. I might add here that the filfot cross definitely does not appear in the earlier periods of Etowah Culture, as Wauchope stated in a recent article (1950, p. 17). As a matter of fact, in an earlier article by the same writer, the filfot cross was designated as late in Etowah, the position demonstrated for it at CK–5. Not a single sherd decorated with this design appears in the earliest levels at CK–5, and as we shall demonstrate later, our earliest levels here are not representative of the earliest part of Etowah culture thus far recognized. Wauchope is almost certainly correct in his derivation of the filfot from the line block, however, a very neat typological development. The line block is an old motif in this area, going back to the Woodstock period (Wauchope, 1948), which is probably a local representative of the Early Mississippi Horizon.

The following tabulation summarizes the occurrence of the several motifs in Etowah Complicated Stamp during this phase (×=5 percent to nearest 5 percent).

Motif:	*Percent*	
2-bar diamond	39	××××××××
1-bar diamond	3	×
3-bar diamond	6	×
Cross diamonds	2	
Line block	21	××××
Filfot cross	14	×××

Only 32 sherds were found of Hiwassee Complicated Stamp and 49 of Wilbanks Complicated Stamp, less than 1 percent of the decorated ware in both cases. Etowah Red Filmed retains some importance, the 111 sherds found representing 1.8 percent of the decorated pottery. Only one sherd of the shell-tempered Hiwassee Red Filmed was found, however. Probably it, as well as the few Hiwassee Complicated Stamp sherds, represent physical leakage up from Phase A deposits through excavating accidents. The 49 sherds of Wilbanks Complicated Stamp are a case of the reverse, leakage downward from the superimposed Wilbanks period strata. One last type, Etowah Polished Black, retains importance about equivalent to that it held in Phase A, 154 sherds or 2.5 percent of the decorated pottery.

The type Etowah Incised is represented by only 4 body sherds, 4 rim sherds, and 3 rim sherds with handles. In spite of the small total of 11 sherds, the presence of this type is important. The vessel shape; the type of incising, a medium-broad line; the motifs, simple arches; and the strap handles, often with flat buttons on top, are all typical of shell-tempered pottery types found in areas more usually considered Mississippian. The Fewkes Village site (Myers, 1928, figs. 165, 180, 181), and Site Lu°25, Unit 2, in the Pickwick Basin (Webb and DeJarnette, 1942, pl. 122, fig. 3) are two representative sites. Judging by the one small surface collection available at Athens, this sort of incising and the buttons on strap handles are also common at Moundville. Apparently, for some specific but currently incomprehensible purpose—perhaps ceremonial in view of the scarcity of the type in the Etowah Valley—the Etowah people were copying this foreign pottery in exact detail, but using their local clay, tempering material, and firing methods. The reasons for this duplication may remain obscure, but the relationships are clean cut and definite. We may also point out that of 4 Etowah Plain strap-handled sherds found, 1 bore the button on top of the handle that is typical of Etowah Incised. Apparently while the type Etowah Incised was never adopted popularly, it provided the inspiration for the few other strap handles used by the Etowah people.

Another pottery type of very minor importance numerically is Hiwassee Red on Buff. Twenty-seven sherds were found. Three of these were scattered in the fill; the other 24 came from one cluster, and do not seem to represent more than two vessels. However, this cluster came from the very top of the Phase B midden on the west side of the mound, at a point under the outer edge of the last addition of yellow silt that was made to the earth-lodge walls. Consequently they just predate the lodge, and were sealed off from later developments by a foot of the yellow-silt wall buttress and about 2 feet of the equally sterile black-clay wall buttress. Adding to the importance of these few sherds here, just prelodge in time, is the fact that the type becomes much more important in the collection from the lodge floor (see below). Apparently these 27 sherds indicate the time period during which the type was introduced to the Etowah site. As noted in the preliminary report (Sears, 1950, p. 141), the appearance of this type only in the later phases here at CK–5 is rather puzzling in view of its early appearance at Hiwassee Island, where it is even considered diagnostic of the Early Mississippi Hiwassee Focus. Since, as we will demonstrate further on, even Phase A at CK–5 equates temporally and culturally with the Dallas Focus, it is very surprising that we found no sherds of the type in our large Phase A sample, even in view of its general scarcity. Probably it is a special ceremonial ware, which may account for the concentration on the floor of the earth lodge. Perhaps the associated ceremonialism did not move into the Etowah Valley from Tennessee until this later period, although this is in doubt because of the ceramic evidence for constant contact between the two areas.

In the "leakage" department, in addition to the Wilbanks Complicated Stamp sherds mentioned above, we may also include four sherds of Lamar Bold Incised and two of Lamar Complicated Stamp.

There are also seven sherds of a shell-tempered complicated stamped ware whose source is completely unknown. Six of the specimens have a design of large scrolls, similar to those used in Wilbanks Complicated Stamp. However, the lands and grooves are much finer than is normal for Wilbanks. The seventh sherd has an overstamped angular design similar in execution to the curvilinear specimens.

Other atypical specimens are as follows:

Cord Marked (sand-tempered)	2
Fine Cord Marked (*Savannah Fine Cord Marked?*)	2
Net Marked, open mesh, sand temper	1
Check Stamp, ½-inch grid, sand temper	1
Zoned punctated sand-tempered, two rows fine punctations, single incised line	1
Incised, various angular or curvilinear motifs, local paste; do not appear to be Etowah Incised	10
Red painted, stripe making right angle on well-smoothed sand-tempered pottery; not Hiwassee Red on Buff	1

Distributed very unevenly through three types were 2,182 undecorated sherds. Etowah Plain was dominant, being 81 percent of the total. Shell-tempered plain ware falls to 6 percent here in contrast to the 28 percent of Phase A. I have not used the name Sixes Plain deliberately. Some sherds are of this type. However, there are also a number of sherds with a soft buff paste heavily tempered with coarsely crushed shell. The ware resembles Late Mississippi plain wares farther north and west more than it does Sixes Plain. There are also some similarly soft and buff-colored sherds, equally heavily tempered, which use a finely crushed shell. The dividing line between these variants is very vague, a great overlap being obvious. Due to this, and to a scarcity of rim sherds which might have helped in sorting, I have not attempted to sort the sherds into three distinct types.

Etowah Burnished Plain is found in Phase B in proportions comparable to its Phase A occurrence, the percentage frequency being 12.8.

There is a greater occurrence in this phase of vessel forms and decorative features relating this Etowah valley Complex to less specialized Mature Mississippi Complexes to the north and west. Thirty-three rim sherds are from plates. Twenty-six of these are Etowah Plain with no special features other than the shape. One other specimen of Etowah Plain has a design in curvilinear incising on the inner (upper) rim (pl. 41, *1*). Similar designs, angular rather than curved, are also found on two specimens decorated exteriorly with the filfot motif in Etowah Complicated Stamp (pl. 41, *2*, *3*). Others are decorated with complicated stamps outside and remain plain inside, one specimen each of the line block and filfot cross motifs. Finally, there is one Etowah Burnished Plain plate rim and one Etowah Polished Black plate rim.

There are 23 sherds from bottles, mostly from the narrower-necked variety. One specimen, with a small vertical lug (pl. 43, *3*) is Etowah Red Filmed, 5 are Etowah Polished Black, 10 are Etowah Plain, and 7 are Etowah Burnished Plain.

Four rim sherds are from bowls related to the common Dallas variety with added rim strip, a type common throughout the Mississippian area. One of our sherds has the typical rim cross section, if taken at the right spot, including the thin vertical edge which protrudes upward on the inner side of the lip, but has four large flat horizontal lugs added rather than a continuous notched rim strip. One plain specimen (pl. 42, *3*) and one burnished plain sherd have the added notched rim strip, while one further Etowah Burnished Plain piece has a semilunar lug, similar to the polished black specimen noted above.

There are also a few sherds from heavily modeled vessels, possibly effigies of some sort. Two are polished black, three are plain, and one is burnished plain, the latter apparently from the orifice of a heavily modeled effigy water bottle.

Strap handles are commoner in this phase than in Phase A, 10 sherds from vessels of 2 pottery types having been found. Three specimens from Etowah Incised vessels were mentioned above (see pl. 40, *4–6*). There are also three strap handles from Etowah Plain vessels, one strap handle with the small flat button from an Etowah Plain pot, and three sherds from the bodies of Etowah Plain vessels that show the points of attachment for strap handles (pl. 40, *3*).

One last sherd which obviously has Late Mississippi connections is engraved. It is sand tempered, black slipped, and highly polished (pl. 42, *5*). Although the specific pottery type and origin of the sherd are unknown, it does serve to relate us to such Mature Mississippi manifestations as Moundville. We also found one sherd of Dallas Negative Painted. However, there was some mixture in the area from which this sherd came, and it might pertain to the Wilbanks period.

Artifacts in Phase B deposits were about as scarce as in Phase A. Our only real picture of the nonceramic artifacts of the Etowah complex comes from the floor of the earth lodge. However, in Phase B deposits we did find one chisel or celt fragment, made of tough slate; the butt end of one of the small stone chisels commoner on the lodge floor; one shell-tempered obtuse angle elbow pipe very similar to the sand-tempered specimen illustrated on plate 44, *2;* and two beads, both barrel shaped, one of stone and one of clay.

Phase B ceramics are obviously directly derived from those of Phase A, as would have been expected with the physical stratigraphy present. There is no evidence for a sharp break either in the ceramic series or in the physical stratigraphy. The separation made here is an arbitrary two-part division of a long-term continuous occupation. Major features used to define this division are the addition of the filfot cross to the inventory of designs used to decorate stamped pottery, the increase in the use of the line-block stamp, and the tremendous drop in the percentage of shell-tempered ware. Although there was no major change in vessel shapes, we do find a higher percentage of minor decorative features in the later phase which ties this phase, even more definitely than the earlier one, to Mature Mississippi culture through the Southeast. Such elements as notched added rim strips and strap handles are important in this respect. Equally important are such forms as the bottle and the plate. Although scarce in the total inventory, they are definite links with such culture complexes as Moundville, Dallas, and Gordon-Fewkes, which are less specialized ceramically and are more obviously participants in Mature Mississippi culture. It may be noted again that although these vessel forms and decorative concepts occur in both periods, and thus equate Phases A and B with Mature Mississippi developments, they are somewhat commoner in Phase B. Some further discussion of the probable significance of these facts will be found at the end of this section. Their discussion will be more pertinent after a consideration of the materials found sealed on the floor of the earth lodge.

THE EARTH LODGE

A few inches of material on the floor of this ceremonial structure, the artifacts largely concentrated in a soft earth with a high percentage of wood ash and a low percentage of organic material, was sealed in by the collapse of the lodge roof. Thus this thin layer was protected against intrusion and disturbance by an average of 30 inches of sterile roof fill vertically (see fig. 6, *b*) and horizontally by 15 to 20 feet of sterile clay and silt wall buttresses (fig. 6). Everything considered, we had here an ideal situation for the isolation of a one-period complex.

There is some difference between the total ceramic complex found on the lodge floor and that in either phase in the midden deposits outside. However, it is apparent that the lodge was built and used in Phase B, probably well toward the end of that phase. Reasons for the specific differences between the lodge floor and Phase B complexes will be advanced at appropriate points.

From this sealed-in deposit 6,477 sherds were recovered. Of these, 55 percent were decorated, divided among the several types, and 45 percent were plain, the same three types being represented as in the midden deposits outside the lodge.

In the decorated ware, Etowah Complicated Stamp is still dominant, 3,329 sherds comprising 93.7 percent of the decorated pottery. Of the Etowah Complicated Stamp sherds, 1,081 bore recognizable designs, the percentage occurrence being as follows (×=5 percent to the nearest 5 percent)

Motif:	*Percent*	
2-bar diamond	16	×××
1-bar diamond	4	×
3-bar diamond	3	×
Cross diamonds	1	
Line block	18	××××
Filfot	24	×××××

It will be noted that the two-bar diamond, the most popular motif in Phases A and B, has now given way in popularity to the filfot cross and the related line block. In fact the total of all types of diamonds just about equals the number of filfot crosses. Actually, the percentage of filfot crosses and line blocks is slightly higher than shown above. Since the central part of a filfot cross and a line block are identical (fig. 9), sherds were classified as unidentifiable unless it were certain which of the two they were.

As the filfot does not enter the main midden deposits until Phase B, it is obvious that the earth-lodge floor deposit is related to Phase B rather than to Phase A. In view of the higher frequency of the filfot on the lodge floor, one might with some logic suppose that this floor material was even later than Phase B in the midden. However, it seems preferable to suppose that this greater frequency of the filfot cross in the building is due to its probable ceremonial connections, a point discussed at some length further on. A preference for this motif in ceremonial usage would also support the thesis that the lodge was a ceremonial structure, although this is admittedly rather circular reasoning. Then too, if we consider the lodge to have been built during Phase B, we allow a few people to live outside, and this would not be the case if the lodge were the latest of all.

The several other decorated types were distributed roughly as in Phase B. Ninety-one sherds of Etowah Red Filmed comprise 2.5 percent of the decorated pottery, and 115 Hiwassee Red on Buff sherds, about half of them from three vessels, make up another 3.2 percent of the decorated ware (pl. 43, *5*, *6*, *7*). Only 12 sherds may be classified as Hiwassee Complicated Stamp, so few that they need not be considered, and only 11 sherds were from Etowah Incised vessels. Etowah Polished Black was also lightly represented by 20 sherds.

The assemblage of plain ware differed little in composition from that found in the Phase B midden. Of the 2,923 sherds, 134, 4.6 percent, were Etowah Burnished Plain and only 29 sherds were shell tempered.

There were even more sherds from plates and bottlenecks in this deposit than there were in the later midden phase outside the structure. Thirty-six plate-rim sherds may be classified as follows.

Etowah Complicated Stamp, filfot cross exterior, plain interior	4
As above, line-block motif	1
As above, uncertain motif	2
Etowah Plain	23
Hiwassee Red on Buff (pl. 43, *4*)	1
Etowah Plain, rim incised, curvilinear motif (similar to pl. 41, *1*)	3
Etowah Plain, rim incised, angular motif (similar to pl. 41, *2*)	1
Etowah Burnished Plain, incised line upper surface parallel to lip	1

Sherds from the necks, rims, or shoulders of bottles numbered 58. A neck sherd with a bit of shoulder attached is illustrated on plate 41, *5*, and the neck of an Etowah Polished Black bottle is No. *6* on the same plate. Other bottle sherds were found in numbers and types as follows.

Etowah Red Filmed	2
Etowah Plain	34
Etowah Burnished Plain	12
Etowah Polished Black	10

Only two strap handles were found. One of them, a broad flat strap, is shell tempered (pl. 40, *2*). Another, rather small specimen with the flat button on top may be from either an Etowah Plain or an Etowah Incised vessel. Since none of the rim is preserved, there is no way of telling which.

Another sherd from an open bowl with four rim lugs, Etowah Burnished Plain, was found.

A new feature here is represented by four sherds that are fragments of large ladles, a Mississippian artifact type. None of these were found in the main Etowah midden, although there is a small one from the Wilbanks deposits (pl. 45, *1*). One ladle sherd is shell tempered, and the other three are sand tempered.

A number of large, thick, irregular sherds apparently are from effigies of some sort. In three cases, they might have been almost anything. However, one specimen is apparently a dog or a bear (pl. 42, *8*) and another is from the muzzle of another, larger dog or bear effigy (pl. 42, *7*).

One sherd that might be mentioned here under Mississippian connections is a hybrid that combines direct and negative painting. The paste is the same as that of a number of Hiwassee Red on Buff specimens, and a direct painted design appears to have been narrow red stripes. This, however, was overlaid by a negative painted design in black paint. There is another sherd of this type in the Andover collections from the Etowah site.

One more sherd, equally small and on the same paste, has only the negative painted design. Both sherds are much more like Crystal River Negative Painted than they are like the local Tennessee variety represented by Dallas Negative Painted.

The floor of the earth lodge yielded a large number of sherds that are idiosyncratic or completely out of context. They are as follows.

Simple Stamp (Etowah Paste)	9
Cord Marked, widely spaced, sand tempered	3
Fabric marked. Twined fabric, fine thread, burlap appearance	13
Fabric marked, similar to above, but loosely twined	11
Miscellaneous Complicated Stamps. Generally paste and execution as Etowah Complicated Stamp motifs unique	28
Etowah Complicated Stamp with red pigment on interior	12
Etowah Plain sherds with red pigment on interior	5
Etowah Complicated Stamp with green pigment on interior	1
Dunlap Fabric Marked	1

In general these sherds contribute nothing to our understanding of the late Etowah period, although we might point out that sherds with twined fabric impression are not overly surprising since the technique is of common occurrence in Middle Mississippi context, usually as a saltpan decoration.

Artifacts were still scarce in the earth lodge, but we are better off here than elsewhere in the site. Fragments of seven pottery pipes were found, five of them definitely of the obtuse angle elbow type, a variety well known from such sites as Hiwassee Island (Lewis and Kneberg, 1946), Peachtree (Setzler and Jennings, 1941), Nacoochee (Heye, Hodge, and Pepper, 1918), and Tennessee sites in the various Tennessee Valley Authority basins. The only particularly well made specimen is decorated with incised lines in an open crosshatch pattern. It and one other are illustrated on plate 44, *1* and *2*.

Two chisels, similar to those from the other deposits, were also found on the lodge floor, as well as the butt of a large celt, oval in cross section (pl. 44, *3*, *4*, *5*).

One unbroken, pulley-type earspool is a duplicate in pottery of those in stone represented by fragments found in Phase A deposits (pl. 45, *3*). Also present in the personal ornament category were two round pottery beads (pl. 45, *2*).

The only bone tools found at CK–5 are from here, three awls made from deer ulna and one from a lighter long bone. Photographs will be found on plate 45. Worked shell is equally scarce. Two perforated mussel shells, one of which is illustrated on plate 45, are the only specimens of worked shell from CK–5. Finally, we have four of the ever present disks, presumably gaming pieces. Three are made from soft stone and one is made from pottery.

The only two projectile points found in situ in the entire site are also from these lodge-floor deposits. As might be expected in this time horizon, they are elongate stemless triangles. One is quite small, 1$\frac{1}{16}$ inches in length. The other was apparently slightly larger, although we have only the base. Both are well made, pressure chipped from gray flint.

ETOWAH PERIOD SUMMARY

It seems appropriate to include here a summary of the Etowah period as a whole, and a statement of the differences, largely in ceramics, which were used to divide the period into two chronologically successive segments. Comparisons on a wider scale will be found in the conclusions to this report where all three of the cultural manifestations found at CK–5 will be discussed.

To recapitulate, nine pottery types appear to be part of the Etowah ceramic complex, their proportionate occurrence varying through time. These types are Etowah Complicated Stamp, Etowah Incised, Etowah Plain, Etowah Burnished Plain, Etowah Polished Black, Etowah Red Filmed, and Sixes Plain. Hiwassee Complicated Stamp, Hiwassee Red on Buff, and Hiwassee Red Filmed, are shell tempered as opposed to the resident ware, which is all sand tempered except Sixes Plain. These three types are found in only very small quantities and presumably are trade wares reaching CK–5 from the Tennessee area. Also present, usually in only a few sherds each, are Dallas Negative Painted, several types of fabric marked, several types of complicated stamped pottery of unknown antecedents, a few sherds of cord-marked and check-stamped pottery, and some incised sherds of doubtful provenience.

In all three of our periods, Etowah Complicated Stamp is decidedly the dominant decorated type, ranging from 92 percent of the decorated pottery in Phase A to 94 percent on the floor of the earth lodge. However, there are marked internal changes in the decoration of this type which have temporal significance. The chart below (fig. 8) summarizes these changes. Most important are the dropping of the ladder-based diamond after Phase A, the introduction of the filfot cross in Phase B, and the increase in the use of the line block stamp in Phase B.

There is also a major change in the frequency of the plain ware types. Shell-tempered plain ware drops from 28 percent in Phase A to 6 percent in Phase B. The break is even stronger than it appears from these percentages, since the shell-tempered pottery in Phase A is a definite type, Sixes Plain, while on the floor of the lodge and in Phase B part of the shell-tempered pottery is Sixes Plain and part is apparently divided among several other types, specific allocation being uncertain. *Etowah Burnished Plain* remains at about the same frequency level all the way through the history of the Etowah culture at this site.

A minority feature of the ceramics that cannot be emphasized too strongly is the occurrence in all three levels of ceramic elements indicating relationship to Mature Mississippi Culture as a total widespread horizon. Such features as four-pointed rims, added notched rim strips, human-face effigy adornos for bowls, and strap handles, are clear indications of such relationship, even though they are scarce, numerically speaking. Of more frequent occurrence, and just as indicative of such relationship, are plates and bottles, neither occurring in definitely Early Mississippi contexts to the best of my knowledge.

There is good reason to believe that these two phases at CK–5 are representative units of the two middle periods of a four-part division of Etowah Culture, a matter to be discussed at some length further on. The point here is that Phases A and B at CK–5 are typical of the two middle periods in all respects, insofar as can be judged from Wauchope's publications, discussions with J. Caldwell, with whom the total sequence was worked out, and personal inspection of the

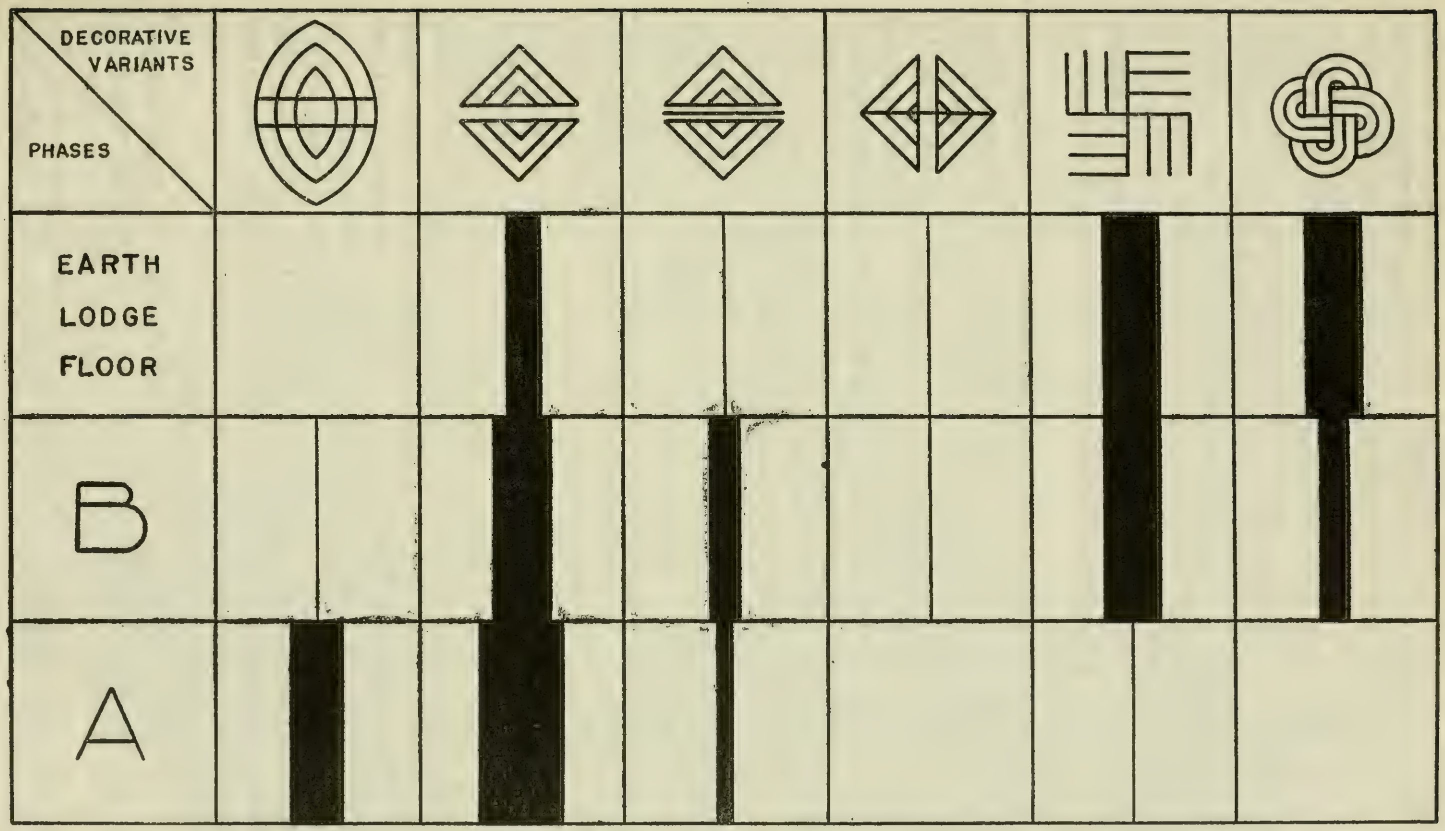

Figure 8.—Chart showing changes in proportional occurrence of major motifs used in Etowah Complicated Stamp. (Width of block equals 100 percent.)

Moorehead collections from Andover and other collections in the files of this department. Since the CK–5 collections are large, and were recovered with due regard to physical stratification and relationship to a definite structure, we may derive from them with considerable certitude the proper trait lists for Etowah culture. These data have been offered in preceding pages, although it has not seemed worthwhile to present them in the form of a formal trait list, a type of presentation that is often misleading. Most of our data relate to ceramics, but the nature of the ceremonial structure and its position in regard to the ceramic sequence is known, as is some information about artifact types. With these data in hand, there are some statements concerning the archeology of the Etowah valley and the Etowah period that we should make.

First, the native pottery types are those listed above. No limestone-tempered pottery is present in the CK–5 collections, although Wauchope reports some quantities of it in early Etowah sites (Wauchope, 1948, p. 205). Nor are there any curvilinear motifs that belong to the Etowah series except the filfots and the rather rare concentric circles combined with crosses in later periods, which are obviously derived from the much commoner concentric diamonds. Concentric diamonds and superimposed triangles are not distinct motifs (Fairbanks, 1950), but are different terms for the same basic motif, as I pointed out on page 151. To correct another published error, the concentric diamonds have two bars bisecting them much more frequently than they have one bar (ibid). Rim flare in the commonest vessel shape might best be considered as moderate rather than slight, as Fairbanks implies (ibid.), although the same writer is perfectly correct in the flat statement that there is never an added rim strip. This needs emphasis again because of the misconception, expressed or unexpressed, that the pottery illustrated in the "Etowah Papers" and the Nacoochee report forms a single complex. Since much of the pottery illustrated in both cases is Lamar, this would make Etowah Complicated Stamp a Lamar type. It is this misconception which has lead a number of authorities to consider Etowah a Lamar site, and consequently to place the cult in the very late protohistoric or early historic period.

In all probability, both ethnically and ceramically, Etowah culture contributed to the make-up of Lamar culture in this area, a point discussed at some length in the conclusions to this report. But, while Etowah may be a Lamar ancestor, and almost certainly is one of several such ancestors, it is not a Lamar variant.

As Fairbanks points out (ibid.), strap handles are commonest on Etowah Incised, a minority type. This point was relatively clear from Wauchope's illustrations, but needed emphasis (Wauchope, 1948, pl. 19). However, strap handles do occur, very rarely, on vessels of the type Etowah Complicated Stamp. There are two strap-handled sherds decorated with two-bar diamonds in the Andover collections made by W. K. Moorehead.

As already stated, the writer believes Wauchope (1950, p. 17) to be perfectly correct in his derivation of the filfot cross from the line-block stamp. However, there appears to have been some reversed stratigraphy at some of Wauchope's sites, since CK–5 indicates very definitely that the filfot cross is not an early Etowah motif. In fact, it would be very surprising if this were an early Etowah motif, since this would mean that it was invented once in a period Wauchope calls Early Mississippi, dropped in the latter part of that period, and then reinvented in the Lamar period. For the writer at least, this is stretching the possibility of independent invention too far. While on the subject of derivations, I might also point out that the evolution of the concentric diamonds presented by Wauchope in his 1950 paper (p. 18) seems a trifle far fetched and based on very scanty collections, only 16 sherds from one side for one of his key motifs (ibid.). The derivation he presents cannot be proved completely in error at the moment. However, in the interests of economy of theory, and using widespread and well-known Georgia stamp motifs, a line of descent starting with Napier Complicated Stamp, a Middle Woodland period type, into Woodstock Complicated Stamp, which is Early Mississippi, and then into the ladder-based triangles of the Early Etowah period, would be preferable. To support this hypothesis, using some of Wauchope's sherds for illustration, I might point out that a development from Napier to Woodstock, using a Napier variant similar to the sherd Wauchope illustrates, as *s* or *n*, fig. 10, (ibid.), is simply a matter of putting a single unit on a stamp instead of a number of linked units. From Woodstock, which usually has pointed ovoids rather than diamonds with four angles, to the ladder-based diamonds, also often ovoid, is simply a matter of changing emphasis from the vertically angled lines to the horizontal ones, not an overly large jump. Once the use of two-bar horizontal elements to bisect the concentric diamonds had been thus introduced, the shift to the fully angular two-bar diamonds, the major motif in phases A and B, was obvious, and the way was laid for the many variations in numbers of bars which become commoner in later periods, as phase B at CK–5. This hypothetical evolution for the diamond motif is illustrated below (fig. 9) along with a similar development from Napier for the filfot cross. In this latter case, the development from Napier for the line blocks and then the filfot cross is logical, and fits temporally. However, there is some as yet unpublished evidence in southwest Georgia to indicate that the line block there, St. Andrews Complicated Stamp (Willey, 1949, pp. 385–386) is as early as, or earlier than, Napier.

Other difficulties will be encountered in reconciling the data and theories advanced in this report with those put forth by Wauchope

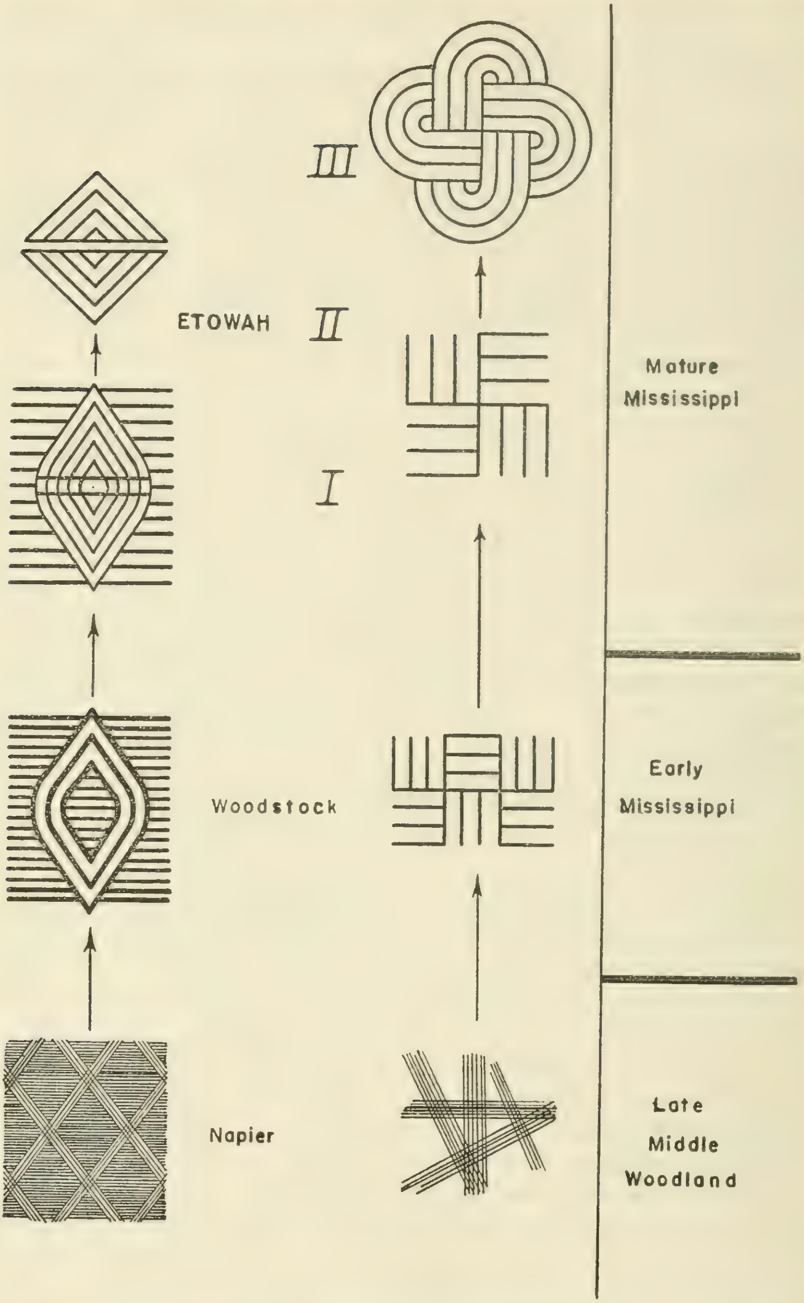
III
ETOWAH
II
I
Mature
Mississippi
Woodstock
Early
Mississippi
Napier
Late
Middle
Woodland

FIGURE 9.—Chart showing development through time of angular motifs used in North Georgia Complicated Stamps.

in his two papers on the Etowah Valley. A major cause of such difficulties will be simply terminology. Omitting certain terms used for pre-Mississippi periods pro tem, it must be pointed out that Wauchope uses the term Early Mississippi to cover the total Etowah period, including the period of Savannah (here Wilbanks) intrusion into the valley. The only late Mississippi period, in Wauchope's usage of the terms, is the Lamar period. I am forced to disagree strongly with this usage. Apparently Wauchope established his main periods on the basis of internal analysis of the Etowah valley ceramics, working from stratigraphic collections. Then the terms with wider coverage were applied at what were considered appropriate intervals. This is, of course, justifiable in the pioneer attempt at unraveling the prehistory of an area. However, I think that the data advanced thus far in this report for the Etowah period make it clear that the total Etowah manifestations should have been placed in the Late Mississippi period, or Temple Mound II, as the terms were then used, basing this largely on the scanty evidences of relationships with other southeastern cultures. However, it must be admitted that Ford and Willey allocated only Lamar to Temple Mound II, although they had very little data to work with. In general, it is clear that the relationships are with cultures and a culture horizon classified as Late Mississippi, exemplified by such manifestations as Dallas (Lewis and Kneberg, 1946); Gordon-Fewkes (Myers, 1928); Moundville (Moore, 1905); large-log town house (Webb, 1938), etc. Early Mississippi is best known from the small-log town house (ibid.), Hiwassee (Lewis and Kneberg, 1946), and Macon (Kelly, 1938) Complexes. The relationships of Etowah are not with these, ceramically, culturally, or architecturally.

A new term has been used in this report to cover the peak period in Mississippi development, set apart from both protohistoric developments as Lamar and from Early Mississippi as such. However, the important point here is that we are dealing with fully developed Mississippian culture and not with its early and formative periods. In the Etowah Valley series, the Woodstock period is probably the best choice for Early Mississippi, since it seems to fit under the earliest Etowah both typologically and stratigraphically (Wauchope, 1948, p. 204). Napier then, ancestral to Woodstock (see fig. 9), would represent the Middle Woodland period in north Georgia. There is some stratigraphic support of this in the Etowah Valley (ibid.), at Macon (Kelly, 1938), and at Kolomoki (Sears, 1951 b, p. 29). Apparently Napier is very late in Middle Woodland, however. Early Woodland ceramics in this area begin with Dunlap Fabric Marked and culminate in the Deptford series.

I mentioned above that Phases A and B of the Etowah period at CK–5 are representatives of the two middle periods of Etowah culture.

The total four-part division was worked out with J. R. Caldwell, and will be presented by him in his report, now in preparation. It is based partly on the CK–5 material largely in the two middle periods; partly on Wauchope's data (Wauchope, 1948); and, particularly for Periods I and IV, on ceramics excavated and analyzed by Caldwell.

The earliest period of definitely Etowah ceramics is characterized by the use of the ladder-based diamonds and the line block as stamp motifs. This is in full accord with Wauchope's seriation. Other sites of this type were located by Caldwell. At CK–5 there is a high percentage of the ladder-based diamond motif in Phase A, but it is completely gone in Phase B. Phase A, then, is the period in which this motif drops out, and is replaced by the two-bar diamond. In Phase B, Etowah Period III in the total series, the two-bar diamond continues, the ladder-based diamond drops out, and the filfot cross enters, immediately becoming important.

Caldwell has been able to isolate a fourth period, which he will describe in his report. We have a few samples of this material from CK–5, but the total sample is too small to report here. It may be proper to anticipate Caldwell's complete presentation by simply remarking that the major characteristics of Period IV ceramics are larger, cruder motifs, in the same series of designs as earlier, applied to a thicker, grittier paste, poorly smoothed, and considerably overstamped. Generally, it is a step in the direction of Lamar ceramics, as might have been expected. Apparently, at CK–5 this material precedes the Wilbanks period. Probably there is still a short temporal hiatus between this material and Phase B at CK–5, and between it and the Wilbanks period. However, the matter is unclear at CK–5 because the several small collections are from areas in zones where the stratification was unclear.

The position of our two phases at CK–5 then is as follows:

Total chronology	*CK–5*	*Characteristics*
Period I	Absent	Ladder-based diamond and line-block motifs.
Period II	Phase A	Ladder-based diamond decreases, 2-bar diamond becomes important.
Period III	Phase B	Ladder-based diamond gone, 2-bar diamond continues important, line block increases, filfot cross enters.
Period IV	Almost absent	Rougher stamping, overstamping. Heading toward Lamar.

Although the earth lodge at CK–5 is the first such structure excavated definitely assignable to the Etowah culture, I have little doubt that such buildings will be found on most Etowah sites of any size. Apparently, in addition to the well-known large-log and small-log town houses of the TVA area, and the series at Macon, there was a similar structure at the Peachtree Mound (see p. 147). It would seem that earth-covered ceremonial structures are a definite part of Southeastern culture during the Mississippian periods, a matter gone into at some length in the preceding section, where we also pointed out an apparent overall temporal variation and the conclusions to be drawn from it. From descriptions of the archeological situation at Ball Ground (also known as Long Swamp and CK–1) (Wauchope, 1948), the mound there was quite probably the remains of a similar structure. (Personal communication from A. R. Kelly and L. Larsen.)

Although ceramics related the CK–5 structure to the latter part of the Etowah period, it is highly probable that such edifices were a feature of Etowah culture at all periods. One rather suspects that some of the small mounds in the field north and east of the Temple Mound at the Etowah site were (Moorehead, 1932, fig. 36) structures of this sort, a point which might be checked in the future.

Our inventory of nonceramic artifacts is small, even if we combine the materials from all three units. Such combination is apparently justifiable, since there is no evident difference between them in the small collections. Perhaps most characteristic of the general Georgia-central and east Tennessee-western North Carolina area during this period are the pipes and stone chisels. Those at CK–5, as types, may be duplicated at dozens of sites. The same may be said of the ever-present pottery or stone disks. Good examples of the types of pipes, chisels, and disks may be found in the Peachtree and Hiwassee reports among others. Bone awls and perforated mussel shells are common and not particularly distinctive of any period of southeastern prehistory. Clay beads, or even stone ones, are again Mississippian time markers, the CK–5 specimens being identical to others from the sites mentioned above.

The general picture of Etowah culture derived from this material is that of a typical Middle Mississippi community. We may envision a fair-sized village of several hundred souls living in a compact settlement surrounded by farmlands, on the river flood plain. Many such villages scattered up and down the bottom lands were in constant contact with one another, and possibly all were subject, in religious matters at least, to the leaders at the great Etowah site itself. Material culture varied from that of the common denominator, Middle Mississippi culture, only in specific details. On the ceramic level, where most of our work is necessarily concentrated, the Etowah culture is very specialized, particularly in the decoration of vessels. However, even in this area it has been possible to find a number of specific ceramic features pointing to direct participation in Mississippian cultures.

THE WILBANKS PERIOD

This period and culture, defined by the pottery types Wilbanks Complicated Stamp and Wilbanks Plain, can be established as a definite interlude in the Etowah Valley through the stratigraphic position of the relevant pottery types at CK–5. The major pottery type, called Savannah Complicated Stamp by Wauchope, although he was not certain whether it might not better be called Late Swift Creek, was found by him in contexts indicating contemporaneity with Late Etowah. It appeared to be a trade ware, but an important one, at several sites including CK–5 (Wauchope, 1948, p. 206). This period has been discussed by Caldwell, who also calls it the Savannah period (Caldwell, 1950, p. 11), and by Fairbanks (1950, pp. 143–144), who adopted the same usage. As I shall attempt to demonstrate in the course of this section, such a usage is incompatible with the facts of the case, and is not proper. I avoided the issue in the preliminary report, and simply noted that the diagnostic pottery type of the period was Savannah Complicated Stamp (Sears, 1950, p. 140). I also attempted to make it clear there, although obviously complete success was not achieved, that only one pottery type of the coastal Savannah series was present, the complicated stamped type. Since there was believed to be only an overlap of one pottery type, the cultures were considered to be distinct, and it was believed that a name other than Savannah should be chosen. A demonstration of this, and a statement of the reasons for changing pottery type names, will be more appropriate, however, after a description of the materials and some discussion of the individual pottery types and their affiliations.

Since the nature of the deposit was discussed in the second section (pp. 138–143) and since the stratigraphy is clearly shown in the profile that forms part of this report (fig. 6, *a*), we need restate only the essential facts here. The midden deposit containing this ceramic complex was distinct in texture and color from the Etowah period midden at the point where it lay unconformably over this earlier deposit. Further, in many areas as the one shown in figure 6, the end of the Wilbanks deposit toward the mound was separated from Etowah deposits by thick layers of sterile wall buttresses belonging to the earth lodge, which must have been a completely collapsed structure when the Wilbanks people moved onto the site.

A large portion of our sample is from sections of midden that were stripped off the underlying wall buttresses en masse, and thus yielded an almost pure collection of Wilbanks period ceramics. However, to supplement this, we have added collections from individual square and level excavation units that were predominantly Wilbanks. In all cases, these were the latest, highest deposits except for Lamar materials in wash or plow-mixed strata. Since the strata sloped, and the excavation proceeded by arbitrarily horizontal levels in many cases, there is some mixture in these added collections with underlying Etowah materials. However, it is certain from observation in the field and laboratory analysis of the stripped sample, that very few Etowah sherds were actually included in the Wilbanks period strata. Most of these, of course, are the sherds lying on the ground surface when the Wilbanks people began to live on the site.

The total ceramic sample is 1,988 sherds. Of this total 1,274 sherds were decorated in various ways. Wilbanks Complicated Stamp, with 951 sherds, 74.6 percent of the decorated ware, is decidedly the majority type. The type description will be found in Appendix B, but a brief recapitulation of the design element frequency is needed here.

Only four motifs occur with any frequency. In the 170 sherds with recognizable motifs, the distribution is as shown in table 1.

Table 1.—*Distribution of motifs in Wilbanks Complicated Stamp*

Motif	Number	Percent	Illustration
Scroll	27	15.8	Plate 39, *6* and *3*.
Bull's-eye	75	44.1	Plate 39, *1* and *2*.
Elongate U with cross bars	55	32.4	Plate 39, 7.
Quatrefoil with solid dot center	10	5.9	Plate 39, *4* and *5*.
Lozenge with solid dot center	2	1.1	

A comparison of the type description for this type (Appendix B) and the descriptions for Savannah Complicated Stamp will make it apparent that the two types are related. Considering the two types as a class, their stamping is set apart from earlier stamping by the much heavier lands and grooves, simpler designs, slight use of fill elements to round off or square off a stamp, and by the use of larger designs. They are also distinguishable from later Lamar stamping by the greater clarity of execution, both in carving the stamp and in its application, by the lack of overstamping, and of course by the lack of the characteristic Lamar rim. However, published opinions to the contrary, including my own (Sears, 1950), Wilbanks Complicated Stamp is specifically different from Savannah Complicated Stamp. First, only two of the motifs recorded in table 1 for the Wilbanks type occur in the Savannah type, while we lack, in this Etowah Valley type, the figure eight motifs that were of some prominence at the Irene site. In the scrolls and bull's-eyes, which occur in both types, solid dot centers were rare at Irene, open loops being dominant. The rather elaborate motif, noted in table 1 "elongate U with cross bars"—although it is actually much more elaborate than that—is missing on the coast completely. As I pointed out in the preliminary report (ibid.), this is probably an unexpected holdover from earlier Swift Creek motifs. Further, although Savannah Complicated Stamp and Wilbanks Complicated Stamp share rather heavy stamping as opposed to the stamping of earlier types, the stamping in the Wilbanks type, in width and depth of lands and grooves, is considerably and uniformly much heavier than in the Savannah type. Speaking impressionistically, Wilbanks designs are characteristically much more massive than those of Savannah Complicated Stamp.

This matter has been gone into at some length because of the published statements, noted above, that Savannah Complicated Stamp occurs in the Etowah valley and is definitive of a Savannah period. Savannah Complicated Stamp does occur in the valley, as noted below. However, the sherds illustrated by Wauchope (1948, pl. 19) are Wilbanks Complicated Stamp (note heavy solid dot centers on pl. 19 B), as are those illustrated in my report (Sears, 1950). Fairbanks, whose opinion is noted above, was misinformed as to the characteristics of this pottery by me.

Six hundred and twenty-four undecorated sherds associated with Wilbanks Complicated Stamp belonged to the type Wilbanks Plain with very few exceptions. The only point that needs emphasis here, although it may be superfluous, is that the sherds are definitely not Savannah Burnished Plain, nor is this resident plain type closely related to the coastal burnished ware.

One last type that is apparently a part of the Wilbanks Complex is Wilbanks Red Filmed, very decidedly a minority ware. Although it is a bit difficult to sort sherds of this type from collections containing Etowah Red Filmed, there are 25 sherds from Wilbanks levels that are characterized by a thin orange wash, rather distinct from the red wash or slip of the Etowah type, and all appear to be from compressed globular bowls. I have been unable to find any really close relatives for this type, although this may be possible when larger scale excavation of a Wilbanks site produces a larger sample and gives a better idea of its characteristics.

Two hundred and fifty sherds of Etowah Complicated Stamp were mixed in with our Wilbanks sample. The distribution of motifs in this type, which made up 19.1 percent of the decorated ware, indicates very clearly that it was derived en masse from Phase B Etowah deposits. It either worked its way up through everyday activities of the Wilbanks people, or was mixed in during excavation in arbitrary levels of sloping strata. The distribution of motifs is as follows:

Motif:	*Percent*	
Filfot cross	21.7	××××
Line block	15.7	×××
2-bar diamond	60.1	××××××××××××

There were also 36 sherds, 1.7 percent of the total pottery, which pertained to the Lamar Complex. Type distribution is as follows:

	Sherds
Lamar Complicated Stamp	23
Lamar Plain	7
Lamar Bold Incised	3
Lamar Pinched, etc., rims	3

These sherds of course worked their way down during excavation, or through rodent holes, etc., in the course of time. I am completely certain that no Lamar pottery types form part of the Wilbanks Complex.

Finally, there is the usual assortment of sherds that belong to unidentifiable pottery types, older types, or are idiosyncratic. They are as follows:

	Sherds
Dunlap Fabric Marked	1
Fine Cord Marked	7
Decorated with fine impressions of single cords	3
Burnished, orange paste, 3 sherds from bottle (burnished variant of Wilbanks Red Filmed?)	11
Shell tempered, otherwise as Wilbanks Complicated Stamp	4
Shell tempered plain	24
Hiwassee Complicated Stamp	4
Shell tempered, incised and punctated	2
Check Stamp, probably Savannah	3
Hiwassee Red on Buff	1
Miniature Polished Black Cazuela bowl (4 sherds from)	4

Artifacts other than pottery were even scarcer than in Etowah period middens. One ladle (pl. 45, *1*) and a dozen disks were made of pottery. Other than these we found a fragment of pottery pipe bowl (apparently the same type as those in the Etowah period), an Etowah type projectile point, and a fragment of celt.

The ceramic complex here presents several problems. First, it is, I think, immediately obvious that the Wilbanks and Savannah complexes, on the one hand, and the Etowah complex, on the other, are products of different evolutions from different ancestors. As I have noted elsewhere (Sears, 1951 a, pp. 111–112) there are two major lines of development in Georgia complicated stamp pottery. The matter will be discussed at some length in the conclusions to this report, but I may point out here that the Wilbanks type is in the curvilinear motif series and line of descent and Etowah Complicated Stamp is in the angular. Thus the appearance of a deposit left by peoples using Wilbanks Complicated Stamp as their main pottery type is clear evidence of the intrusion of new peoples into the valley, long a stronghold of the angular stamping tradition.

Another problem meriting some discussion is that of the use of the term "Savannah period" in the Etowah Valley. There are, I believe, strong objections to this usage. First, as we have pointed out above, the pottery type which initiated the use of the term is not Savannah Complicated Stamp at all, although it is closely related. However, even if it had been Savannah Complicated Stamp, the Savannah culture, represented by the Savannah ceramic complex as originally defined, would not be present in the Etowah valley. This follows from these facts: The Savannah Complex at the Irene site has as pottery types Savannah Complicated Stamp, in small quantities and early; Savannah Fine Cord Marked; Savannah Check Stamped; and Savannah Burnished Plain. In the Etowah Valley, the types associated with the stamped type related to Savannah Complicated Stamp were Wilbanks Plain, not at all closely related to Savannah Burnished Plain, and in very small quantities the orange filmed type, Wilbanks Red Filmed. If the stamped types had been identical then, there would have been only a one-pottery-type overlap between the two complexes out of a total of six types. Certainly, then, the same culture is not represented. Since the two stamped types are related, however, the use of the term Savannah period might have been justifiable. However, it seems better to use such regional terms only for cases of near identity, which this certainly is not, and to use such terms with wider application as Early, Mature, and Late Mississippi for wider relationships. To look at the matter differently, in terms of the Midwest Taxonomic System (McKern, 1939), Wilbanks and Savannah might be foci in the same aspect.

To confuse the problems already noted still further, however, I must point out that Savannah Complicated Stamp, or at least pottery closer to it than the Wilbanks type, does occur in the Etowah Valley. Many of the sherds illustrated in Ashley's section in the Etowah Papers (Ashley, 1932) are pertinent here. On her figure 73, disk *b* is closer to Savannah, but disk *f* is definitely Wilbanks; on figure 83 sherd *a* is again close to Savannah, or is Savannah, *b* is unfamiliar, *c* and *d* are Late Etowah. Four more Savannah sherds, all except *b*, are illustrated on figure 86 of the same report. Personal inspection of the Etowah collections indicates that both Savannah and Wilbanks are present, in somewhere near equal proportions. Two batches of sherds in the collections at Andover are from intrusive pits in the small mounds at Etowah, and are both Wilbanks Complicated Stamp.

Other Savannah or Savannah-like sherds have been found by Caldwell in the Allatoona Basin, and will be discussed by him.

Apparently, there are either two stamped complexes in the curvilinear tradition in the valley at the same time, or one is descended from the other. I prefer the latter hypothesis, and would vote for Wilbanks Complicated Stamp as the later of the two, since its stamping is heavier and cruder; it is thus closer to Lamar stamping, the terminus of complicated stamping.

THE LAMAR PERIOD

The Lamar manifestation at CK–5 is decidedly our least important occupation, in terms of thickness of deposit and number of artifacts. Lamar pottery was found almost entirely in the plow zone and in levels that contained materials washed and plowed down from the top of the mound. There were slightly thicker undisturbed deposits to the east and north, barely touched by our trenches. Unfortunately, considerations of time and money prevented further exploration of these deposits. This is particularly unfortunate since the north trench cut into a burned house of wattle and daub construction. However, we were able to recover from the total deposits a sample of 561 Lamar sherds, sorted out largely on typological grounds from plow-mixed or washed strata.

Three types are present, the decorated ones conforming to the type descriptions for the Lamar Complex provided by Jennings and Fairbanks (1939–40). Of the sherds, 148 were Lamar Complicated Stamp. In most cases, the sherds were small and so heavily overstamped that it was impossible to even guess at the motifs. In the dozen or so cases where a guess was possible, the specimens seemed about equally divided between curvilinear motifs of probable Wilbanks-Savannah derivation and angular motifs derived from the Etowah series. All rim sherds were treated in the standard Lamar fashions, usually folded with the base of the rim fluted, although several sherds of added pinched rim bands are present.

Three hundred and nineteen sherds were plain. However, there are two distinct surface treatments present in the general class of plain pottery. One hundred and fifty-seven sherds, including nine fluted rims, are close to the type description in all respects. They are reasonably well smoothed but are rough in spots because of the large temper particles that protrude through the often blue-white self-slipped surface. One hundred and sixty-two other sherds, including nine more of the typical Lamar rims, have a deliberately roughened surface. I am unable to decide how the roughening was done, but it was apparently deliberate, the relief running as high as one-sixteenth of an inch.

Finally, there are 83 sherds of Lamar Bold Incised. Forty of these are body sherds and 43 are rim sherds. All of them are derived from Cazuela bowls whose lower halfs are usually well smoothed. Often a band of circular punctations is found at the angle dividing the upper half of the vessel from the lower half. Design motifs are those given in the type description.

There are also 10 pinched-rim sherds of uncertain type, uncertain since we have only the rims, and one Lamar Plain sherd from a plate.

We might point out here that the Lamar horizon is not as completely uniform as might be supposed, judging from available literature. In all manifestations known to belong to this horizon thus far in the Etowah Valley, the three major types are present, the incised ware is more or less uniform, and all the complicated stamped pottery possesses the common characteristics of globular vessel shape with slightly flaring rim, fluted, notched or pinched rim, heavy stamping, and considerable overstamping. However, J. Caldwell has found and briefly described two Lamar variants, one of them possibly representing historic Creek occupancy (Caldwell, 1950, pp. 9–10). Neither of these variants is too close to our CK–5 variety of Lamar. A third variant encountered by Caldwell, representative of his Galt period, is considered to be the representation of historic Cherokee occupancy of the valley (ibid., pp. 7–9). Still another sort of Lamar is that at the Etowah site itself where the latest occupation, by peoples of the Lamar culture, was very heavy. The Lamar pottery from this site, judging by the large collections at Andover and in the Ceramic Repository for Eastern United States at the University of Michigan, is characterized by more carefully executed stamping than is the case with any of the others noted. Stamps are carefully cut and applied with less overstamping, and there is a decided dominance of rectilinear designs derived from the stamp motifs in the Etowah series. Surface finish differs too, as this ware is usually well smoothed inside and better smoothed on the exterior than any of the other Lamar variants. Temper also differs, since in the Etowah collections it tends to be very fine and rather sparse grit, or even sand, in contrast to the profuse, large angular particles of grit so abundant in most Lamar pottery.

On the whole, Lamar covers many sins. It is probable that eventually specific variants will be tied in to specific Muskhogean and Cherokee groups. We might also point out that while a 1540 dateline for Lamar is generally acceptable, a total time span of perhaps 200 years is probable, leaving a good deal of room for temporal variations to have occurred, as they almost certainly have. A further discussion of this problem will be found in the final section, but it seemed desirable here to mention briefly a few salient points as regards the immediate situation in the Etowah Valley.

SUMMARY AND CONCLUSIONS

Some statements have been made concerning the relationships of the several manifestations at CK–5 to other culture complexes in the Southeast. In this section I shall attempt to carry this process somewhat further, after briefly summarizing the data recovered from the Wilbanks site for each of the cultures there represented.

The story at this site begins with the Etowah period and culture, which is not only the earliest but is also definitely the most important of the three present at this site in terms of intensity of occupation and consequently in terms of information available. Ceramically the total period is characterized by a strong dominance of the pottery type Etowah Complicated Stamp. Carefully made stamps using rather fine lands and grooves were carefully applied to subglobular round-bottomed vessels, usually with moderately flaring rims. The Etowah period at CK–5 can be divided into two periods, designated as Phases A and B in this report. Our strongest evidence for such a temporal division, a division which of course also implies cultural change, is change in the relative frequency of the various stamp motifs in Etowah Complicated Stamp. Some of these changes are strongly marked, as the frequency of the ladder-based diamond in Phase A, 20 percent of the decorated ware, and its complete absence in Phase B (see fig. 8). Phase A does not have the filfot cross at all, but this motif is on 14 percent of the decorated ware in Phase B. The line-block motif, only 3 percent in Phase A, climbs to 21 percent in B. One motif, the two-bar diamond, remains the most important throughout.

There is also a major change in the frequency of shell-tempered plain ware, 28 percent of the total plain ware in Phase A and only 6 percent on Phase B. In the minority types, Hiwassee Complicated Stamp is of some importance in Phase A and of none in Phase B, and Hiwassee Red on Buff is completely absent in Phase A but is found in Phase B, particularly on the floor of the earth lodge.

The nonceramic inventory is poorly represented in both phases, except on the floor of the earth lodge which was built during Phase B. Projectile points, although scarce, were the small isosceles triangles common in the Mature and Late Mississippi horizons throughout the Southeast. Pipes were found in some numbers, all of clay and of the obtuse angle elbow type, which has about the same spatial and temporal distribution as the projectile points noted above. A few bone awls and shell spoons are not particularly significant. Many pottery discoidals were found, but are common in all three periods at this site and throughout the Southeast in the Mature and Late Mississippi periods.

We excavated only one structure, the square, gabled roof edifice with horizontal log and earth buttress outer walls and earth roof covering, which formed, after collapse, the mound which was the major feature of the site and on which people of the Lamar and Wilbanks periods lived.

The total Etowah period as represented here at CK–5 is definitely the local representative of Mature Mississippi Culture, a horizon recognizable through most of the Southeastern United States. Characteristic of the period are strong ceremonialism, especially evident in the paraphernalia of the Southern Cult, large temple mounds with facing plazas as part of metropolitan centers, and great artistic development, not solely confined to the paraphernalia of the cult. Examples of the latter would be the specialized mortuary pottery in the later Weeden Island-Kolomoki series in southwest Georgia-northwest Florida (Sears, 1951, a, c), the elaborate pottery usually associated with burials in the Caddoan area, Hiwassee Red on Buff and the red filmed types from this area, and so on. In all probability the earth lodges are also indicative of the general ceremonial level, although they are not restricted to the Mature Mississippi period. In pottery, throughout the Southeast, this is the period of the specialized wares noted above, usually not only particularly well made but often of types, shapes, and styles of decoration confined to pieces specially made for mortuary purposes.

Strap handles, although rare in the Etowah complex, indicate a temporal and cultural position at least in the Mature Mississippi period rather than in the early formative period of Mississippian culture. However, strap handles continue through to the historic period, so that they do not serve to mark an upper level.

Generally speaking, the period is one of great cultural development, of large populations organized into large political entities, the political organizations apparently having a strongly class-structured and theocratic basis. Individual representatives of the horizon may best be recognized by obvious high cultural development, excellence in the manufacture of artifacts, particularly pottery, and sites which are not only numerous, but are very often large. At present specific trait lists for the horizon would not serve our purposes.

Every cultural unit participating in this widespread horizon will of course be unique in many respects, usually reflected most strongly in the ceramics. Our Etowah representative, specializing in the well made complicated stamped ware, is probably as specialized as any and more so than most. Definitely, here and elsewhere, the cultures participating in this widespread culture type are the products of local development over long periods of time. The Etowah culture has roots, particularly obvious in ceramics, which reach back hundreds of years into the past history of the Etowah valley, certainly as far back as the Middle Woodland Napier period. But, as populations in the Southeast grew larger, reflecting constantly increasing control over the environment through the development and improvement of agriculture, contacts and relationships between the originally diverse cultures produced greater and greater uniformity. The Eva Focus (Lewis and Kneberg, 1949) to the contrary, we do not expect to find laggards with any frequency.

I have stated a number of times that the Etowah period was almost certainly the period of the Southern Cult. There are a number of reasons for this belief. First, and perhaps most obvious, the relationships of the Etowah culture are with the Dallas culture of Tennessee with which the cult is definitely associated, probably in the earlier periods of Dallas. Secondly, the scanty evidence available seems to indicate that the graves in the gully at CK-5, which yielded the earspool shown on plate 45, *4*, are Etowah period. Descriptions of vessels removed by amateurs seem to fit the Etowah series, and Pat Wofford, of Atco, Ga., recovered a rather unique human effigy bottle from one of the graves only a few feet from the one which produced the earspools. On the breast of the figure is an engraved cross in a circle, apparently an indication of a shell gorget. The pottery type is Etowah Red Filmed. Another point is that many of these graves were of the stone-slab type, as were the graves in Mound D at Etowah which produced the cult material.

The situation at the Etowah site itself, judging by a brief analysis of the few sherds at Andover which are cataloged by provenience, indicates Etowah period for the cult manifestations there. Etowah materials are found in all deposits below the plow zone, Savannah or Wilbanks materials in the plow zone and in intrusive pits into small mounds, and Lamar materials in the plow zone only. The vessels from burial association are not much help, as these negative painted wares do not occur in the village site. However, the fill pottery seems to be Etowah, including that in the individual grave fills. Since it seems probable that these graves were made successively through the floors of temples, as priests died, in the Natchez fashion (Waring, A. J., Jr., personal communication), and then another mantle of earth added for the temple house of the new incumbent, it would be very surprising if post-Etowah materials were not in the grave fills, or in the mound fills themselves, which would include old floors, if the cult graves belonged to one of these later periods.

None of this is completely conclusive evidence, but en toto it points strongly to the conclusion that the cult was a part of Etowah culture.

On the level of detailed analysis and comparison, the relationships of the Etowah culture are most clearly with the Hiwassee Island-Dallas duo, specifically with the later Dallas Focus. Items demonstrating this relationship are Hiwassee Complicated Stamp in Phase A at CK-5 and Etowah Complicated Stamp in Hiwassee levels at Hiwassee Island; bowls at CK-5 with notched added rim strips, relating them to Dallas Modeled, or to similar bowls throughout the

Southeast as far west as Arkansas; applique human face effigy at CK–5, probably from a bowl of the above-mentioned type; four-pointed jar rims, shell tempered, at CK–5, a common Dallas type (Lewis and Kneberg, 1946, p. 101) ; Hiwassee Red on Buff at both sites, about equally important at both; the strap handles of course, which at Hiwassee Island serve to distinguish the Dallas Focus from the Hiwassee Focus (Lewis and Kneberg, 1946, p. 102), very similar pipe and projectile point types; pottery discoidals, shared with many other cultures in the area, and substructure mounds. In the latter case, while we do not have a substructure mound at CK–5, we pointed out above that the mounds at the Etowah site belong to the Etowah period rather than to the Wilbanks or Lamar periods.

The earth lodge, strap handles on pottery, projectile-point types, pottery vessel shapes, and pipe types, plus again the general cultural level, tie Etowah culture to a number of others in the general Tennessee-Alabama-Mississippi area, the TVA region. The large log town house (Webb, 1938) and Gordon-Fewkes (Myers, 1928) are the best known of these cultures.

If we were to recapitulate the evidence for CK–5 relationships to the Hiwassee and Dallas Foci, the manifestations to which Etowah Culture is most closely related, and extend our list of related cultural units through them in trait-list fashion, we would simply end up with a list of every Mature Mississippi site in the Southeast, plus a fair number of Late Mississippi sites. We are not going to do this, of course, but point the fact out simply to emphasize the general cultural uniformity in this period.

The Wilbanks period is much more difficult to handle. Wilbanks Complicated Stamp, the diagnostic pottery type, does occur at other sites in the Etowah Valley. The sherds illustrated by Wauchope are of this type, as I pointed out on p. 174. However, pottery much closer to Savannah Complicated Stamp is also present in the area, as I also noted earlier. At any rate, at CK–5, the Wilbanks period is characterized ceramically by the dominance of one complicated stamped pottery type, stamped with curvilinear motifs, described in Appendix B as Wilbanks Complicated Stamp. Vessel shapes and nonceramic artifacts are similar to those of the Etowah Culture, and the general culture type probably did not vary greatly from that of the Etowah period. One of our greatest needs in north Georgia at present is the excavation of pure sites of this period, to straighten out temporal relationships and give us a full picture of the culture content. The most we can say at present is that Wilbanks Complicated Stamp is closely related to Savannah Complicated Stamp, and that the difference between the two is probably due to development through time of the Wilbanks from the Savannah type. In either case, the appearance of this material in the valley is a clear indication of cultural intrusion. Not only are the decorative techniques, firing techniques, and style of finish of this type different from those of Etowah Complicated Stamp, but they reflect separate developmental lines from originally distinct ancestors.

The work at the Wilbanks site adds little to our knowledge of Lamar Culture, which in general is too little known for a horizon which is so freely bandied about in archeological literature and discussions. The three pottery types found at CK–5 are the well-known Lamar Complicated Stamp and Lamar Bold Incised, plus Lamar Plain. The only point worth emphasizing here is that Lamar is a unit at the aspect level, not at the focus level. While most Lamar variants are readily recognizable as Lamar on the basis of the rim form and surface finish, there is a great deal of internal variation. Some of the variants were pointed out in the preceding chapter, others are known to the writer and to other workers in the area, and will be documented in the future. The point is that we may eventually work out temporal and ethnic variants of Lamar pottery complexes with some exactness. We need not give up and simply reiterate "Muskhogean culture of the 16th century."

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APPENDIX A

LITERATURE REFERENCES FOR FORMAL DESCRIPTIONS OF POTTERY TYPES MENTIONED IN TEXT

Crystal River Negative Painted	Willey, 1949, p. 391.
Dallas Negative Painted	Lewis and Kneberg, 1946, p. 96 (discussion).
Dallas Decorated (Includes Dallas Modeled)	Ibid., p. 105.
Dallas Plain	Ibid., p. 95 (discussion).
Dunlap Fabric Marked	Jennings and Fairbanks, 1940, p. 7.
Etowah Complicated Stamp	Wauchope, 1948 (discussion): Appendix B.
Etowah Incised	Ibid.
Etowah Plain (Plain Smooth)	Ibid.
Halstead Plain	Jennings and Fairbanks, 1940, p. 3.
Hiwassee Complicated Stamp	Lewis and Kneberg, 1946, p. 104.
Hiwassee Red on Buff	Ibid., p. 104.
Hiwassee Red Filmed	Ibid., pp. 103–104.
Lamar Bold Incised	Jennings and Fairbanks, 1939.
Lamar Complicated Stamp	Ibid.
Napier Complicated Stamp	Jennings and Fairbanks, 1940, p. 8.
Pickwick Complicated Stamp	Haag, 1939.
Savannah Burnished Plain	Caldwell and McCann, 1941, pp. 45–46.
Savannah Check Stamped	Ibid., pp. 44–45.
Savannah Complicated Stamp	Ibid., p. 45.
Savannah Fine Cord Marked	Ibid., pp. 43–44.
Tampa Complicated Stamp	Willey, 1949, pp. 436–437.

APPENDIX B

POTTERY TYPE DESCRIPTIONS

ETOWAH PLAIN:

Paste:

Method of manufacture: Coiled.

Tempering: Sand, often micaceous, rather coarse. Moderate amount.

Texture: Slightly sandy, well amalgamated, no distortion or lamination.

Hardness: 2.5.

Color: Ranges from medium brown through to black. Most sherds are in the darker brown range, interior, exterior, and core.

Surface finish: Good to indifferent smoothing on interior and exterior. Ranges from a near burnish to quite sandy, with smoothing tool marks evident in all cases. A roughened, crackly finish is found on some sherds, probably the result of poor drying before firing.

Decoration: None.

Form:

Rim: Flared, slightly to heavily, most moderate flare, ca. 45 degrees.

Lip: Usually carelessly rounded, occasionally flattened.

Body: Elongate jar, narrows toward round base from moderately sloping shoulders. A few plates and open bowls are also included.

Base: Convex.

Thickness:

Rim: 9–13 mm., average 11.5 mm.

Body: 9–13 mm., average 11 mm.

Appendages: Strap handles, with or without flat buttons, occur rarely. (See plate 40 for handle types.)

Geographical range: As remainder Etowah complex. See Etowah Complicated Stamp.

Chronological position: As remainder complex. See Etowah Complicated Stamp.

Probable relationships: As Etowah Complicated Stamp.

ETOWAH COMPLICATED STAMP:

Paste: As Etowah Plain.

Surface finish: Well smoothed, near polish in many cases on the interior. Exterior apparently treated in the same way before the application of the stamp.

Decoration: Complicated stamps, usually drafted and carved with considerable skill. Application of these stamps ranges from very careful and precise to sloppy with a great deal of overstamping. Only the one motif is carved on a stamp, although in some cases parallel horizontal lines fill in the area of the stamp outside the main motif. Motifs are illustrated in figure 9 and on plates 37 and 38. The commonest motifs in the several

ETOWAH COMPLICATED STAMP—Continued

periods of Etowah development are as follows (see text for precise data and documentation):

Etowah I	Ladder-based diamond and line block.
Etowah II (CK–5 Phase A)	2-bar diamond.
Etowah III (CK–5 Phase B)	2-bar diamond, line block, and filfot cross.
Etowah IV	As in period III, but with very sloppy execution in drafting, carving, and placement.

Form: As Etowah Plain.

Geographical range: Total complex of Etowah Complicated Stamp, Etowah Plain, Etowah Burnished Plain, Etowah Red Filmed, and Etowah Polished Black, is well known only in the Etowah drainage thus far. However, available surface collections containing sherds of the diagnostic stamped type indicate that it was the dominant pottery type in the Georgia piedmont during the Mature Mississippi period. Scattered sherds have also been noted in collections from the area around Macon and Milledgeville in the center of the State, which is probably indicative of the southern extreme of the types range. However, sherds of Etowah Complicated Stamp were also found at the Irene site. Typical Etowah motifs are there included in the illustrations as part of Savannah Complicated Stamp (Caldwell and McCann, 1941, fig. 18).

Chronological position: In the Etowah valley, the stratigraphic position of the type and complex is between the Woodstock Complex, Early Mississippi, and before the Wilbanks-Savannah Complexes, which in turn immediately precede Lamar, protohistoric, and early historic. Position in the Mature Mississippi period is confirmed by the presence of ceramic traits shared with other cultures demonstrated to be in the Mature Mississippi Horizon, as Dallas, which participates in the Southern Cult.

Probable relationships: Apparently the type developed in the north Georgia tradition of complicated stamping, using angular motifs from Woodstock Complicated Stamp. It, in turn, enters into the ancestry of Lamar Complicated Stamp, as that type was made in north Georgia. This is based on stylistic seriation of major motifs used in the stamping (see fig. 9) as well as on known relative temporal positions of the relevant types.

ETOWAH BURNISHED PLAIN:

Paste:

Method of manufacture: Coiled.

Temper: Fine sand, small to moderate amount.

Texture: Fine, well compacted and amalgamated.

Hardness: 2.5–3.

Color: Reddish buff to dark brown. Usually many fire clouds are present.

Surface finish: Interior well smoothed, although concentric rings left by the smoothing tool are apparent on most sherds. Exterior burnished, probably while pottery was leather hard. Finishing has produced a fine crackle as well as the burnish.

Decoration: None on the commonest form, the compressed globular bowl. Some bowls have notched added rim strips, applique human faces, in Dallas tradition. Shallow open bowls and plates, very rare, have notched rims in a few cases.

ETOWAH BURNISHED PLAIN—Continued

Form:

Rim: Direct, unmodified on the normal bowl form. Flared at angle from body in plates.

Lip: Usually carefully rounded, occasionally slightly flattened with slight exterior extrusion of paste.

Body: Compressed globular bowl decidedly the predominant form. Other forms are open bowls, with or without scalloped rims and added rim strips, bottles with wide or narrow necks, jars, and plates.

Base: Convex.

Thickness: In compressed globular bowls, 8–11 mm., average 9.8 mm. Variable in other forms.

Appendages: Four flat horizontal lugs, semilunar in form, on a few open bowls.

Geographical range: As remainder of the Etowah Complex. See Etowah Complicated Stamp.

Chronological position: As remainder of the complex.

Probable relationships: The major vessel form is too unspecialized to be indicative of relationships. The finish and rare specialized vessel shapes as plates, bottles, and open bowls with added notched rim strips indicate relationships to the Dallas Plain and Modeled types (Lewis and Kneberg, 1946, pp. 80–107) and in turn to similar specialized wares characteristic of the Mature Mississippi period in the area from Tennessee to Arkansas.

ETOWAH POLISHED BLACK:

Paste:

Method of manufacture: Both coiled and modeled from mass of clay. Sherds from bottles and more elaborate forms, possibly including effigies, indicate that some segments were modeled from the mass of clay, welded into place, and then carved to appropriate thickness on the interior. All bottle necks were shaped separately and then welded into place, the welds only being smoothed off on the exterior.

Temper: Small amount of fine micaceous sand.

Texture: Fine.

Hardness: 2.5–3.

Color: Core and interiors medium to dark gray. In rare sherds, the core is black.

Surface finish: Polished Black. Black, a definite slip in many cases, in other instances may be a deliberate smudging or a thinner paint. Fired on to a well-smoothed surface, and polished, in all cases. Definitely slipped pieces have a higher luster than others as well as greater thickness of pigment layer.

Decoration: Black slip, polish.

Form:

Rim: Variable. Number of elaborate vessel shapes.

Lip: As rim.

Body: Mostly rather elaborate vessel shapes. Bottles with wide or narrow necks, bowls with flared rims, sometimes notched or with flat horizontal semilunar lugs, open bowls with added rim strips, and apparently some effigies. A number of sherds are thick, carved on interior, and oddly shaped. Also a few plates and a few small jars.

Thickness: Varies with vessel shape and part.

ETOWAH POLISHED BLACK—Continued

Appendages: Flat lugs, horizontal, semilunar, on open bowls, notched added rim strips.

Geographical range: Probably as remainder Etowah Complex. See Etowah Complicated Stamp.

Chronological position: Apparently confined to Etowah periods II and III.

Probable relationships: Related to black filmed and polished wares in similar shapes characteristic of the Mature Mississippi period. Moundville Engraved is the best known of these; names have not been published for others although they are generally known. Range generally is as that given for Etowah Burnished Plain.

ETOWAH RED FILMED:

Paste:

Method of manufacture: Coiling and modeling from mass. As in polished black type; most of vessel is shaped by coiling technique. Other segments, in more elaborate vessel forms, modeled from mass of clay and welded into place.

Temper: Small to moderate amount fine sand.

Texture: Fine to sandy, depends on amount of temper.

Hardness: 2.5.

Color: Cores and interiors light buff to medium brown or gray.

Surface finish: Interior poorly smoothed, even roughly, in many forms; well smoothed in open bowls, with tool marks eradicated. Exterior well smoothed before red film applied.

Decoration: Red slip or red paint, usually the latter, a few sherds have thick, polished red coating, fired on.

Form:

Rim: Varies with specialized vessel shape. Direct bowl rim is probably the commonest.

Lip: As rim.

Body: Variety of forms. Definitely represented in the CK–5 collections are bottles with wide and narrow necks and possibly blank faced effigy bottles, plates, and bowls of two types, open and compressed globular. Many elaborately modeled sherds are presumably from effigies of some sort. One small human effigy, with the open mouth as orifice, was recovered by an amateur from a grave washed out in the gully on the site.

Base: Variable.

Thickness: Variable.

Appendages: Vertical lugs on wide-mouthed bottles known in two cases.

Geographical range: Presumably as remainder of complex, only known in Etowah valley at present. See Etowah Complicated Stamp.

Chronological position: As total Etowah complex. See Etowah Complicated Stamp, but is probably confined to the middle periods, II and III.

Probable relationships: Considering only formally described types, it is obviously a close relative of Hiwassee Red on Buff, with which it shares vessel forms and red filming. Other than this, to a widespread series of Mississippi red filmed wares most of which have not yet been described. Some of the vessel forms, particularly the plate and the bottle, are indications of partcipation in Mature Mississippi Culture.

WILBANKS PLAIN:

Paste:

Method of manufacture: Coiled.

Tempering: Large amounts coarse sand.

WILBANKS PLAIN—Continued

Paste—Continued

Texture: Coarse and sandy, lumpy fracture.

Hardness: 2–2.5.

Color: Reddish brown through medium gray. Most sherds fall in lighter reddish brown tones.

Surface finish: Well-smoothed interior, rarely shows tool marks except as slight textural differences. Exteriors are sandy, apparently were not well smoothed after partial drying as were most interiors.

Decorations: None.

Form:

Rim: Moderate flare, often with sharp angle on interior at shoulder (see profiles below).

Lip: Carelessly rounded or squared.

Body: Elongate jar, rounded but distinct shoulders, in many cases with definite angle on interior setting off neck region.

Base: Convex.

Thickness:

Rim: 11–13 mm., average 12.33 mm.

Body: 10–14 mm., average 12.25 mm.

Appendages: None.

Geographical range: Only known in Etowah valley.

Chronological position: At CK–5, Wilbanks strata is over Etowah and under Lamar.

Probable relationships: See Wilbanks Complicated Stamp.

WILBANKS COMPLICATED STAMP:

Paste: As Wilbanks Plain.

Surface finish: As Wilbanks Plain.

Decoration: Complicated stamping covers the entire vessel exterior except the base. As a rule, one simple motif is used on a stamp, without additional fill elements to take up space not used by the main element. With one exception, the known motifs use three to four lands plus a solid central dot, the exception being the rather elaborate "elongate U with cross bars." Lands and grooves are broad, lands averaging 3 mm. wide, grooves slightly wider. Stamping is deep and definite, but with much overstamping. Motifs known to date are (pl. 39):

Scroll	15.8 percent at CK–5.
Bull's-eye	44.1 percent at CK–5.
"U"	32.4 percent at CK–5.
Quatrefoil	5.9 percent at CK–5.

Form:

Rim, lip, body, base, thickness as Wilbanks Plain.

Appendages: Semilunar, flat horizontal lugs just under the lip in two cases.

Geographical range: Only known in the Etowah valley.

Chronological position: As Wilbanks Plain.

Probable relationships: A Late northern extension in the development of complicated stamping using curvilinear motifs which has the southern part of Georgia as its center. The closest relative is Savannah Complicated Stamp on the basis of vessel form, overall stamping, stamp size, and simplicity of stamp design. The type develops from Early Swift Creek in a line running through the Swift Creek style and then through Kolomoki Complicated Stamp. The tradition culminates in Lamar Complicated Stamp, as that type is found in south Georgia.

SIXES PLAIN:

Paste:

Method of manufacture: Coiled.

Tempering: Finely crushed shell, moderate amount.

Texture: Slightly contorted, lumpy fracture.

Hardness: 2.5–3.

Color: Exterior surface medium to dark gray. Interior surface medium brown to dark gray. Cores gray.

Surface finish: Well smoothed, near burnish interior and exterior. Tool marks are obvious.

Decoration: None.

Form:

Rim: Moderate to strong flare from abruptly constricted neck. Pulled out to four rim points in several cases.

Lip: Rounded.

Body: Uncertain. Rather strongly rounded shoulders, probably globular jar.

Base: Probably convex.

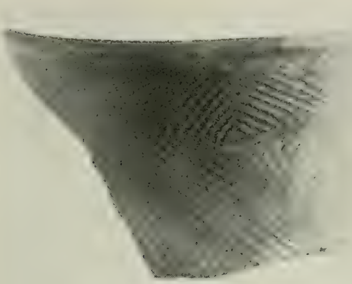
Thickness: Average 11 mm.

Appendages: None.

Geographcal range: Known only from CK–5.

Chronological position: Phase A, Etowah period II.

Probable relationships: Local representatives of the widespread Middle Mississippi shell-tempered plain wares. The four pointed rims, plus the affiliations of other Phase A material at CK–5, point to the Dallas Culture of Tennessee as the home of the most closely related type (Lewis and Kneberg, 1946, pp. 80–107).



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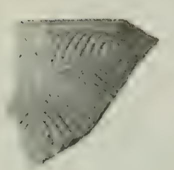

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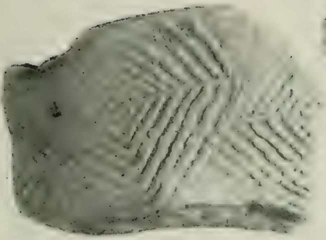

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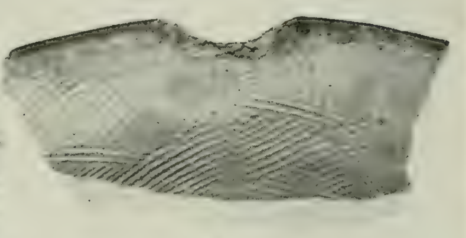

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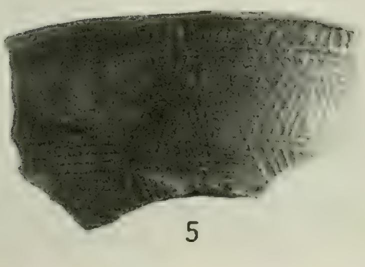

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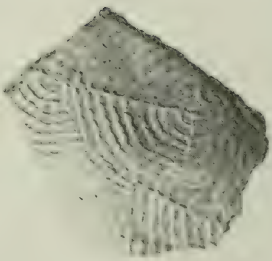

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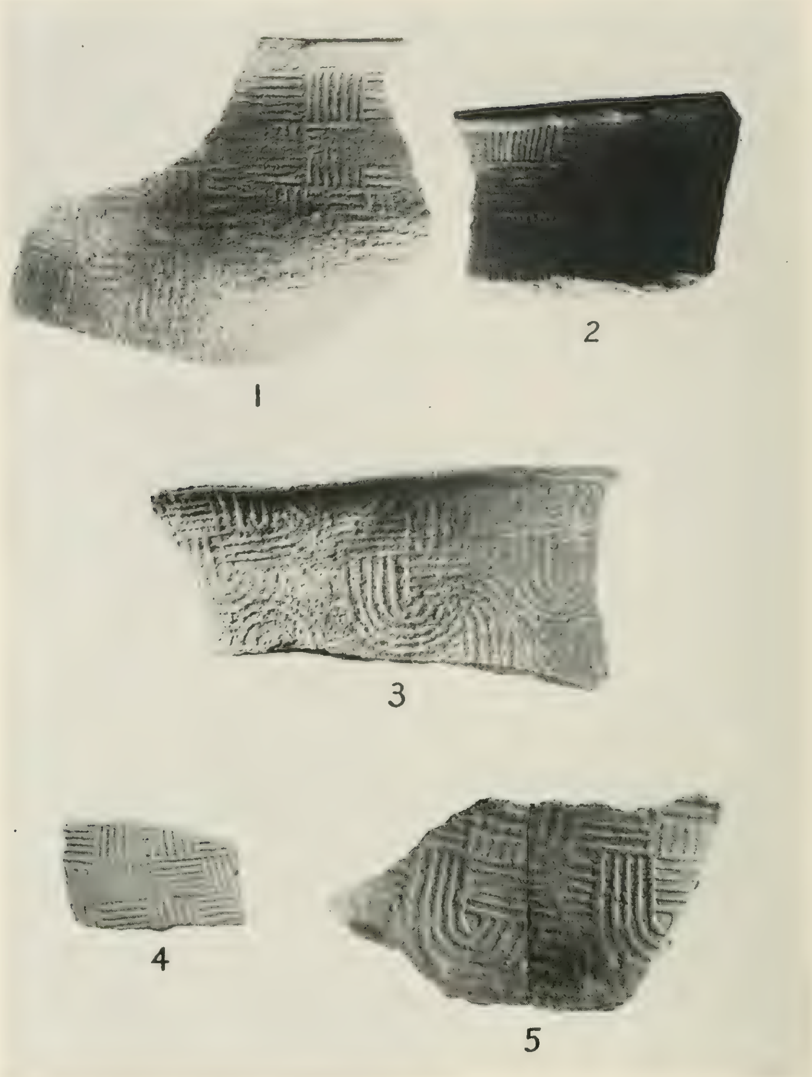
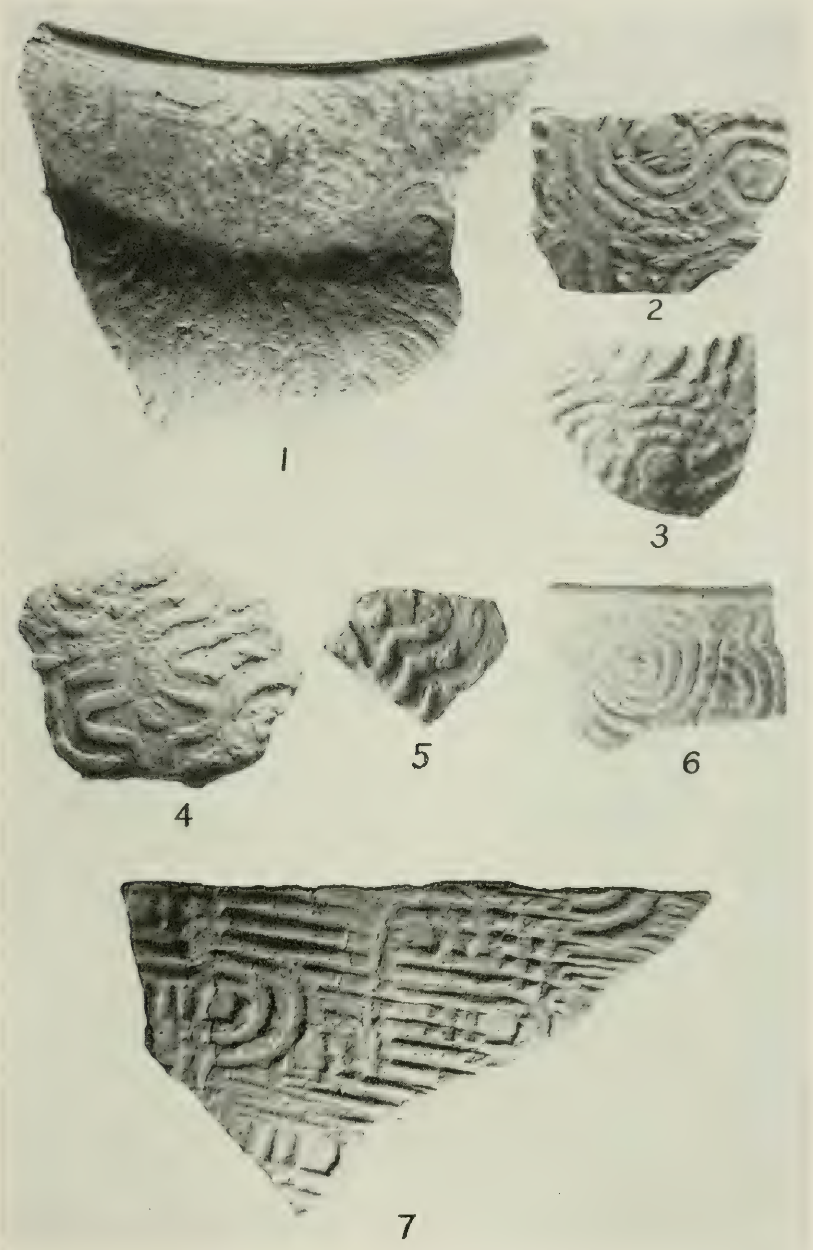
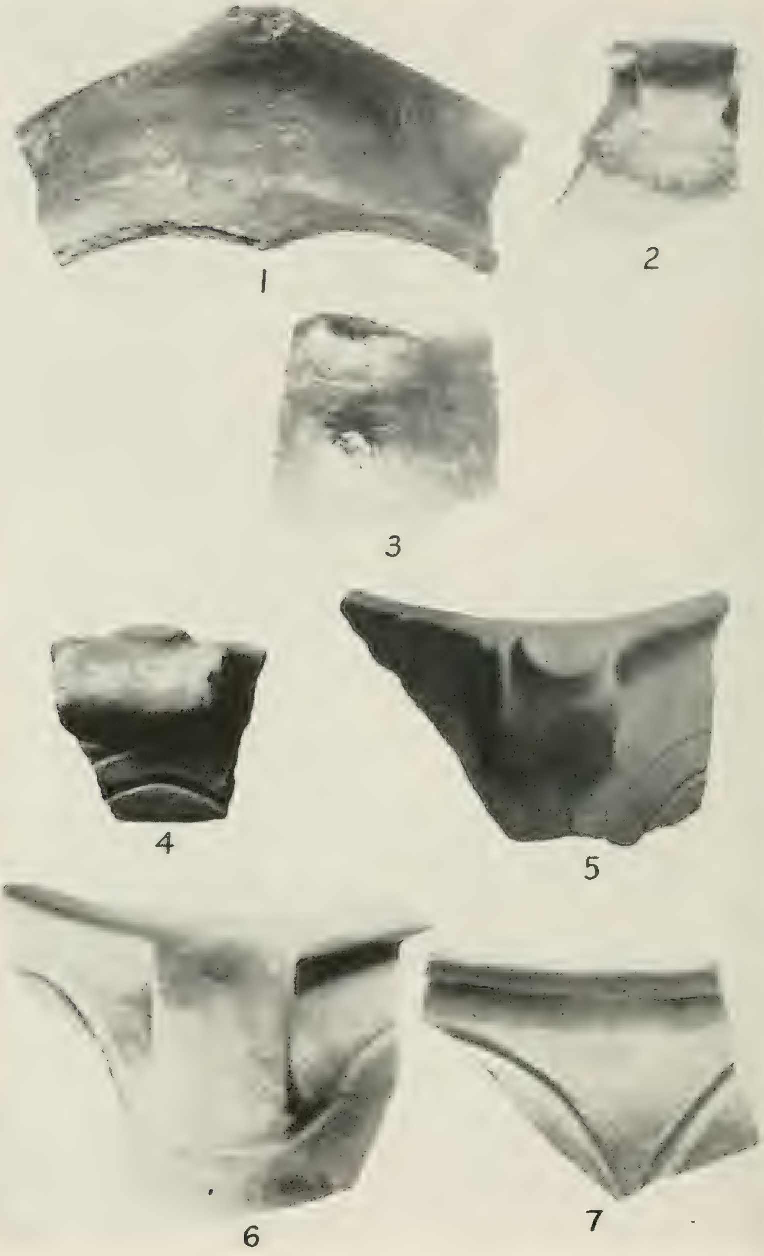
Etowah Complicated Stamp. *1* and *2*, Two-bar diamond motifs. Etowah periods II and III. *3*, One-bar diamond. Etowah periods II and III. *4*, Three-bar diamond. Etowah periods II and III. *5*, Ladder-base diamond. Etowah periods I and II. *6*, One-bar cross diamond. Etowah periods II and III. All rim sherds are normal form, moderately flared.



Etowah Complicated Stamp. *1, 2, 4,* Line-block motif. Etowah periods I–III. *3, 5,* Filfot cross, Etowah type. Etowah period III. Rim sherds are normal form, moderately to strongly flared.



Wilbanks Complicated Stamp. *1*, *2*, *3*, Bull's-eye motif. Overstamping about average for this type. Normal rim form for type on *1*. *4*, *5*, Quatrefoil motif. *6*, Scroll motif. *7*, Elaborate motif. Elongate U with cross bars.



Sixes Plain, shell-tempered trade ware, Etowah Plain, and Etowah Incised. *1*, Sixes Plain. Four-pointed rim sherd. *2*, Strap handle, shell-tempered trade ware. Heavily shell tempered. *3*, Strap-handle fractures on Etowah Plain rim sherd. *4*, *5*, Etowah Incised. Strap handles with buttons. *6*, Etowah Incised. Plain strap handle. *7*, Etowah Incised.

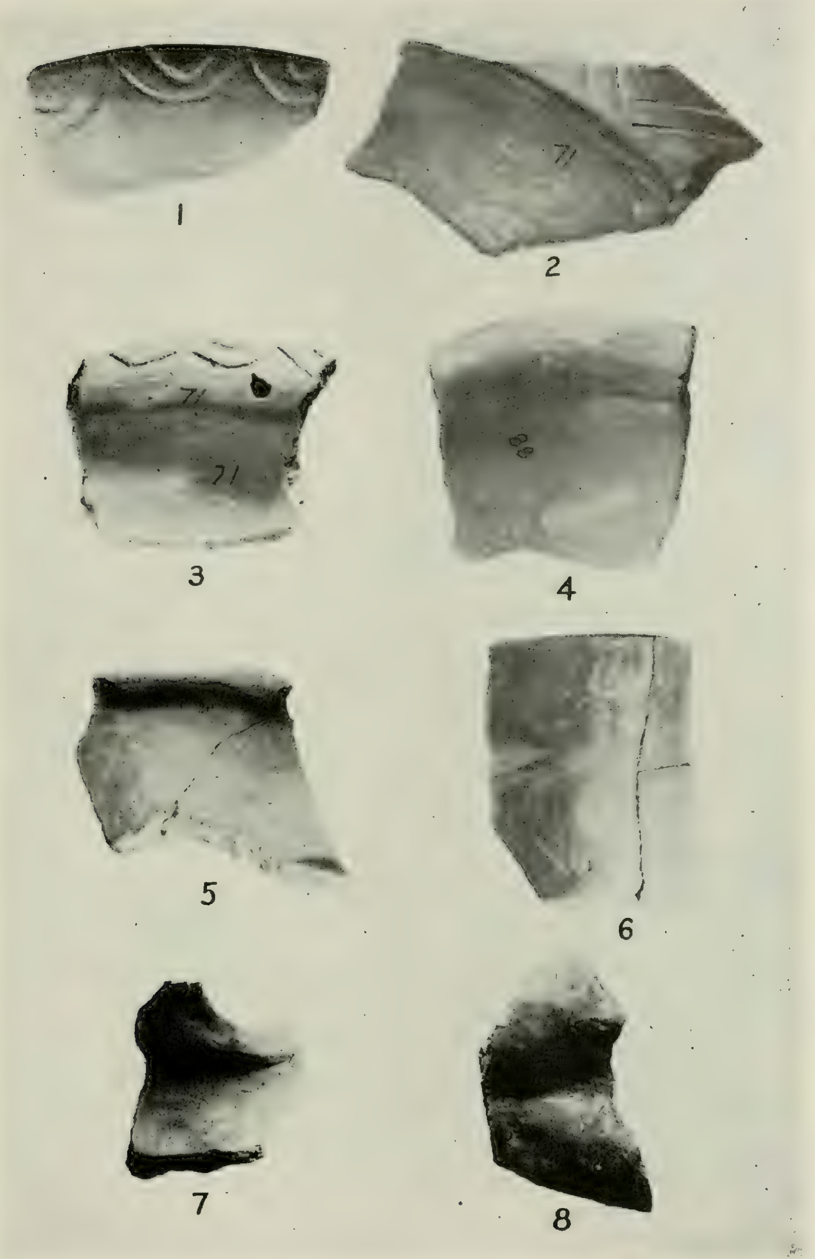
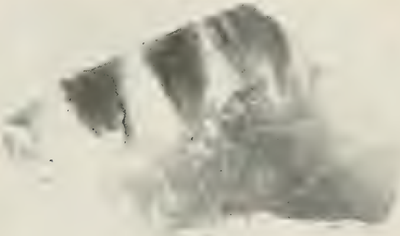


Plate and bottle rims. *1–4*, Plate rims. Etowah Plain. *5*, Rim from wide-mouthed bottle. Etowah Plain. *6*, Rim from straight-necked bottle. Etowah Burnished Plain. *7*, *8*, Etowah Plain blank-faced effigy sherds.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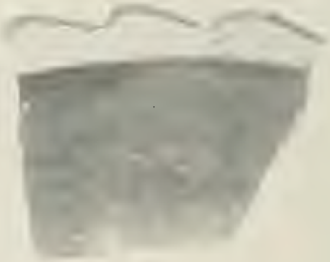
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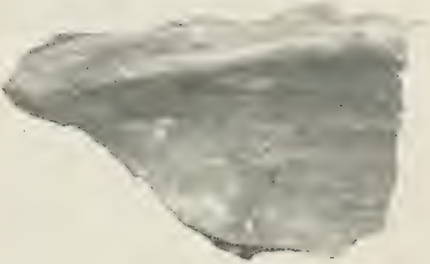
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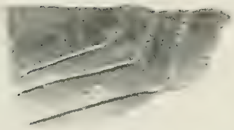
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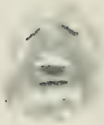
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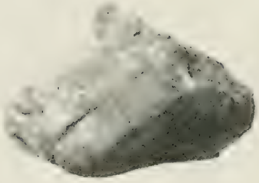
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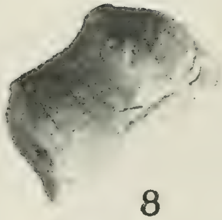
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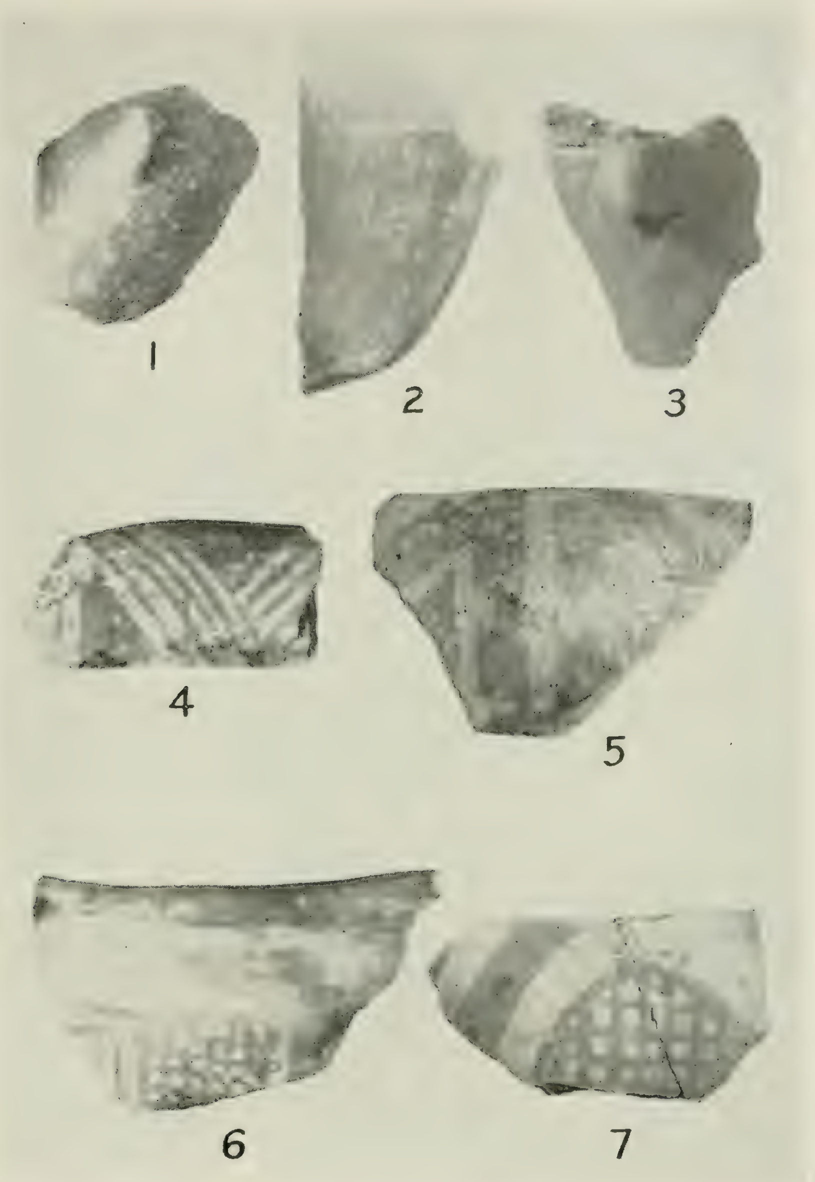
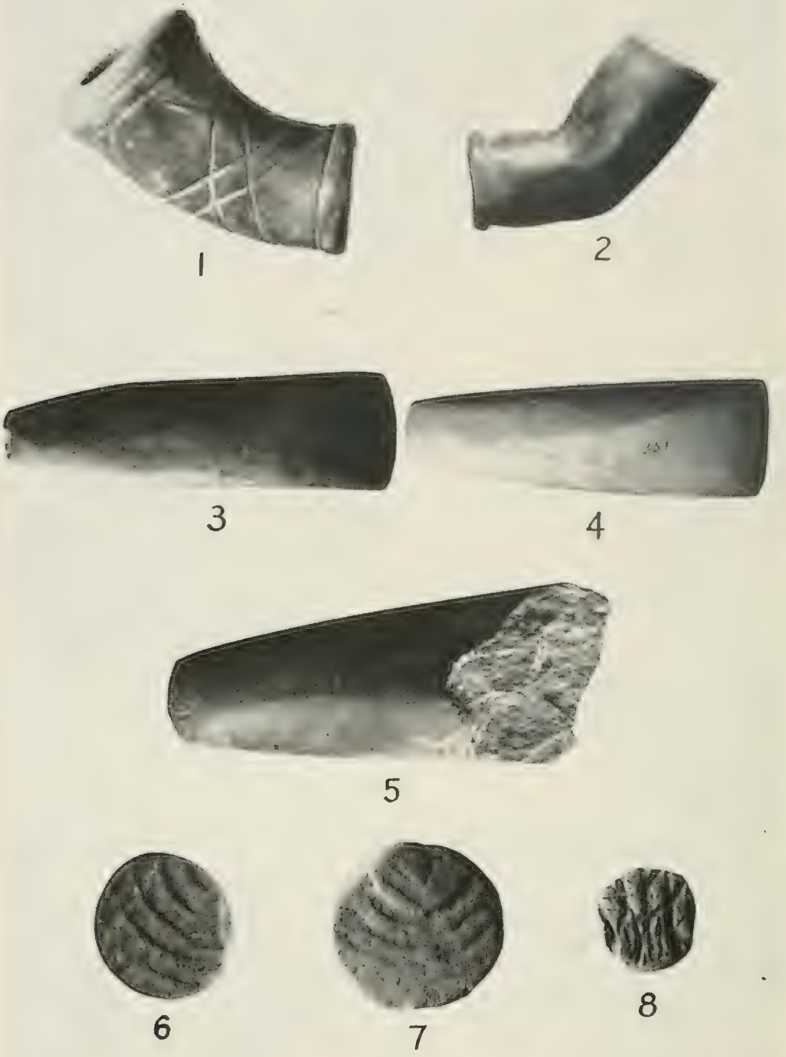
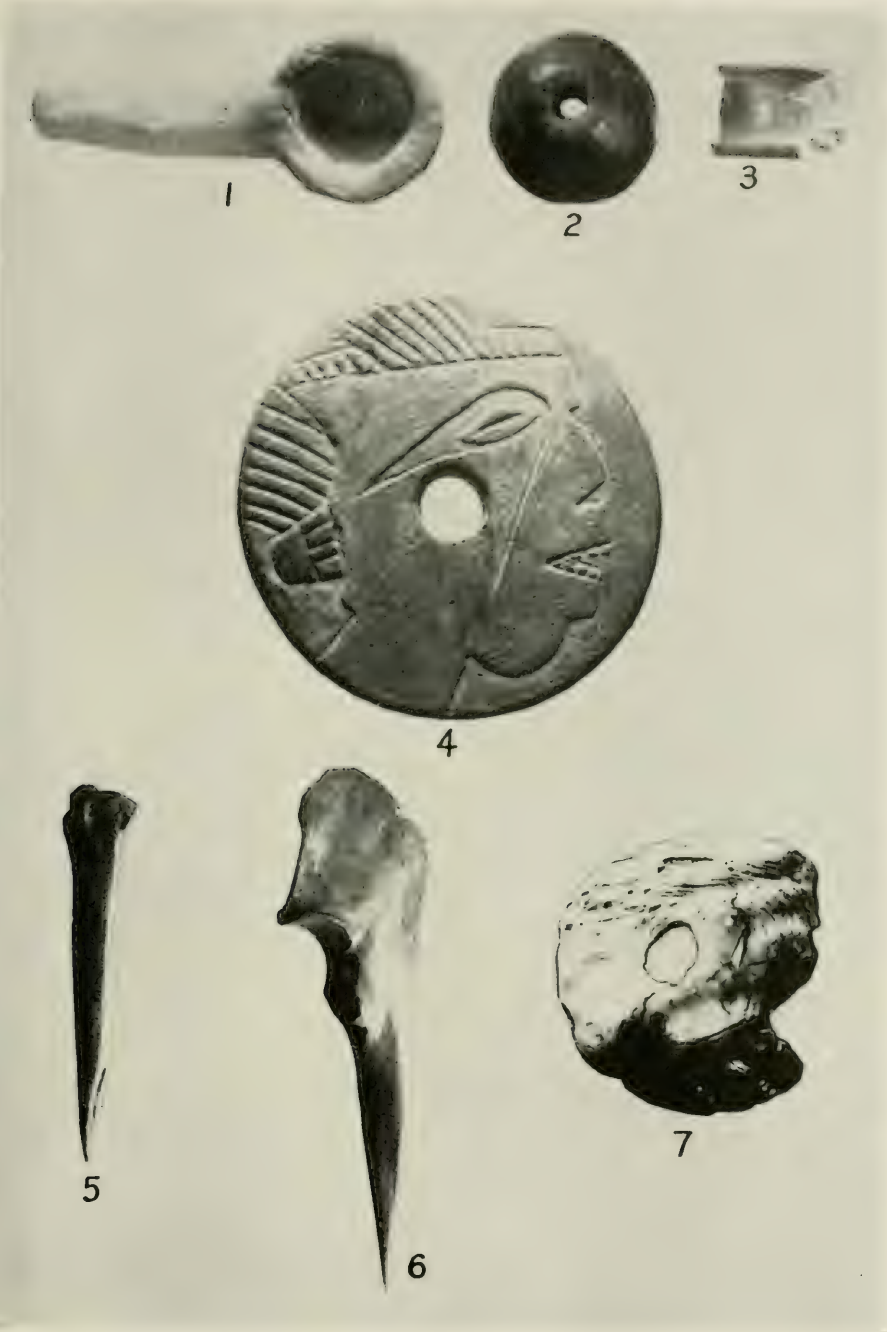
Minority types. *1*, Pinched rim. Etowah Burnished Plain. *2*, Scalloped rim. Etowah Polished Black bowl. *3*, Notched added rim strip. Etowah Plain bowl. *4*, Etowah Burnished Plain rim. *5*, Engraved Polished Black sherd. *6*, Human face adorno, probably from bowl. *7*, Fragment of pottery dog or bear effigy. *8*, Fragment of pottery dog or bear effigy.



Painted types. *1*, Hiwassee Red Filmed. Body sherd with small vertical lug. *2*, Etowah Red Filmed. Irregular plate (?) rim. *3*, Etowah Red Filmed. Narrow jar or bottle neck, small vertical lug. *4*, *5*, *6*, *7*, Hiwassee Red on Buff (*4*, upper surface, plate rim; *6*, normal bowl rim).



Artifact types. *1* and *2*, Pipes. Etowah period. *3* and *4*, Chisels. Etowah period *5*, Celt butt. Etowah period. *6–8*, Pottery disks. Wilbanks period.



Artifact types. *1*, Ladle. Wilbanks period. *2*, Pottery bead. Etowah period. *3*, Fragment of stone napkin ring earspool. Etowah period. *4*, Stone earspool with Southern Cult motif. From grave near earth lodge. *5* and *6*, Bone awls. Etowah period. *7*, Perforated mussel shell. Etowah period.

SMITHSONIAN INSTITUTION
Bureau of American Ethnology
Bulletin 169

River Basin Surveys Papers, No. 13

Historic Sites in and around the Jim Woodruff Reservoir Area, Florida-Georgia

By MARK F. BOYD

422141—58——17

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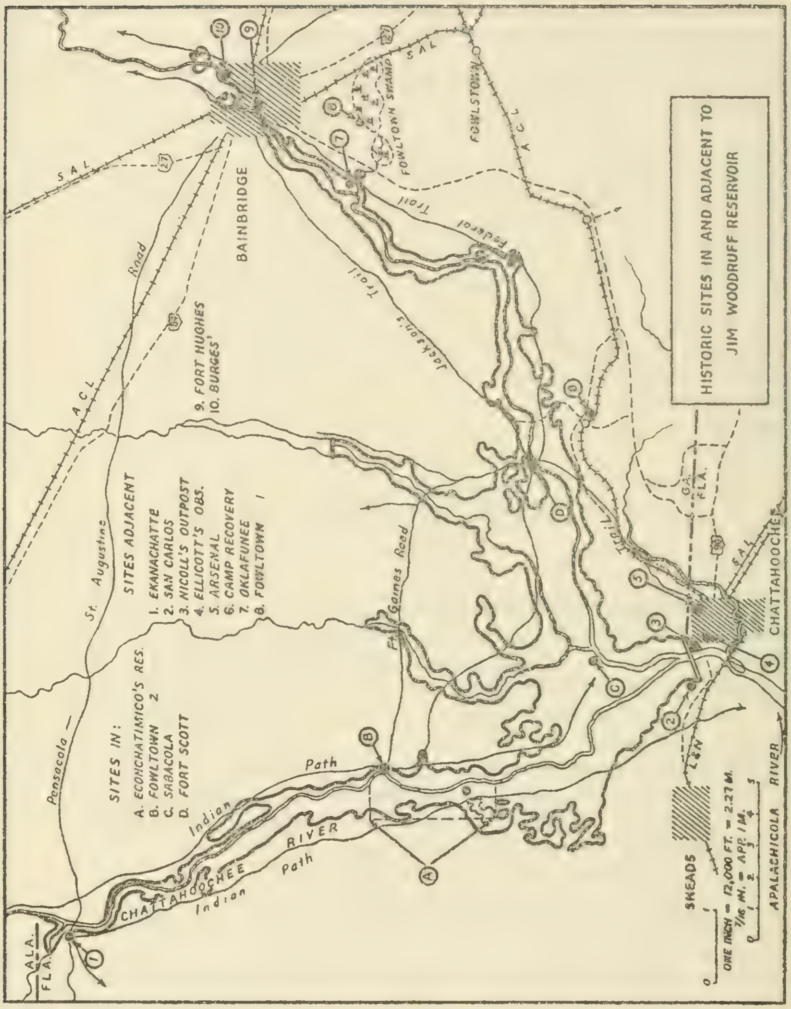
HISTORIC SITES IN AND ADJACENT TO
JIM WOODRUFF RESERVOIR
SITES IN:
A. ECONCHATIMICO'S RES.
B. FOWLTOWN 2
C. SABACOLA
D. FORT SCOTT
SITES ADJACENT
1. EKANACHATTE
2. SAN CARLOS
3. NICOLL'S OUTPOST
4. ELLICOTT'S OBS.
5. ARSENAL
6. CAMP RECOVERY
7. OKLAFUNEE
8. FOWLTOWN 1
9. FORT HUGHES
10. BURGES'
BAINBRIDGE
CHATTAHOOCHEE
FOWLSTOWN
FOWLTOWN SWAMP
SNEADS
ALA.
FLA.
GA.
FLA.
CHATTAHOOCHEE RIVER
APALACHICOLA RIVER
Indian Path
Indian Path
Pensacola — St. Augustine Road
Jackson's Trail
Federal Trail
Ft. Gaines Road
A C L
S A L
L & N
27
97
90
ONE INCH = 12,000 FT. = 2.27 M.
7/16 MI. = APP. 1 M.
0 1 2 3 4 5

MAP 8.—Area adjacent to the Jim Woodruff Reservoir.

HISTORIC SITES IN AND AROUND THE JIM WOODRUFF RESERVOIR AREA, FLORIDA-GEORGIA[1]

By Mark F. Boyd

INTRODUCTION

The Apalachicola River is wholly a Florida stream, formed at the western extremity of the boundary line between Georgia and the colonial East Florida by the union of the Flint and Chattahoochee Rivers. The Flint is the shorter and more pellucid member of the union, while the Chattahoochee has greater volume and marked turbidity. "Rugged" is not a term that with strict propriety can be applied to Florida topography, but if understood to be used in a relative sense it may be said that the terrain about the confluence is perhaps the most rugged to be found in the State. Swinging from west to east in an arc with a northern concavity is a height of land that originates in Florida west of the Chattahoochee and, extending into Georgia, curves northeastward east of the Flint at least as far north as Camilla, which at one time may perhaps have afforded an impediment to the passage of the waters to the southward. Certainly it continues to be responsible for the deflection of the course of the Flint to the southwest as it approaches the point of confluence. After their confluence, the conjoined rivers pierce the height of land. The terrain of the Georgia counties lying between the rivers, Seminole and part of Decatur, is low and prairielike, with a gentle slope from north to south. The west bank of the Flint from below Bainbridge to its mouth, and the east bank of the Chattahoochee below Early County to the confluence, are devoid of marked elevations either along the immediate riverbanks or at a short distance back therefrom. This is in marked contrast to the east and west banks of the respective rivers, where their flood plains are sharply delimited by relatively high bluffs.

The Jim Woodruff Dam is located on the Apalachicola River about 1,000 feet below the confluence, and will be about 6,130 feet in length, and except for its extreme eastern extremity, lies wholly within Florida. The normal pool contour or waterline of the lake will be at 77 feet above sea level, with provision for an additional surcharge contour 2 feet higher, which will provide a maximum head of 33 feet. It is constructed for the dual purpose of aiding navigation on the rivers above and providing electric power. When the combined waters of the rivers are held back by the dam, they will spread out over 37,500 acres, creating a lake with a highly irregular shoreline, calculated at approximately 243 miles in circumference (frontispiece, map 8). The slack water created on each river by the dam will extend much farther upstream than the area of flooding. It will be evident 52 miles above the dam on the Chattahoochee and for 47 miles on the Flint. Regarding the upper limit of the pool as marked by the limit of slack water, this on the Chattahoochee will be encountered a short distance above the Henry County–Houston County line in Alabama, but the river southward will remain within its original banks as far as the Alabama–Florida line. The upper pool limit on the Flint will extend a few miles north of the Decatur County line, between Baker and Mitchell Counties. For 5 or 6 miles north of Bainbridge there will be a narrow, irregular, and disconnected belt of flooding, beyond which the stream will remain within its original banks. The only tributaries of consequence to be affected are Fish Pond Drain and Spring Creek, both in Georgia, which in their lower courses will disappear.

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[1] Revised manuscript submitted August 1956. Original report submitted to Region One office of the National Park Service in December 1953 and accepted and approved in March 1954 by the Regional Director as fulfilling the agreement between the National Park Service and the Florida Historical Society.

It is likely that before the deforestation inevitable in the agricultural development of woodland, the Chattahoochee waters were much less turbid. This stream, however, has always been renowned for its floods. The waters of the Flint, except when in flood, are relatively clear, and the stream receives much accession to its volume from numerous springs on its banks from Albany downward.[2]

The banks of the Chattahoochee in the vicinity of the fall line and below were occupied in prehistoric and historic times by numerous towns of the Lower Creek Indians. Abundant evidence of protohistoric occupation is found on all high points along the banks as far as the fork. Many of these sites are revealed by ancient shell middens exposed on eroded river banks, which indicate that these waters were much less turbid at the time when these mussels thrived. Although prehistoric aboriginal settlements were numerous on the Flint, in historic times for reasons now unknown, that river was not so extensively favored. Historic villages appear to have made their appearance along the Flint about the middle of the 18th century, as colonies from the older towns on the Chattahoochee.

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[2] Since the reservoir behind the Woodruff dam has been filled, the water of the lake exhibits the turbid appearance of that of the Chattahoochee River, even up the valley of the Flint to the neighborhood of Bainbridge. Capt. Henry S. McCord, USAFR, senior instructor at the Southern Airways Contract School at Bainbridge, Ga., states that from the air, the springs along the Flint stand out strikingly against the brown silt-laden water, as clear blue spots.

Events in the region of the confluence have played an interesting even though minor role in the history of the Southeast, particularly in colonial times. The rivers themselves, and the footpaths on either bank of the Chattahoochee, afforded ready communication between the aboriginal towns and villages on either bank. After Spanish penetration into Apalachee, a course of overland traffic from the southeast intersected the river path, and occasionally a rare Spanish party penetrated to the westward of the Apalachicola. After English intrusion on the Chattahoochee at about the fall line, the development of Spanish intercourse received a check. When Florida was united to the British dominions there was a revival of intercourse through gulf ports, in particular St. Marks, and after the restoration of Florida to Spain, the principal traffic flow continued on a north-south axis.

The periods of Spanish or British intrusion were interludes of short duration and did little to alter the face of the region, as it continued remote from the occupied and settled frontier, and relatively speaking, for extended periods it was not heavily populated by the Indians themselves.

Prior to the delimitation of the international boundary line, the Indians of the region had things pretty much their own way, and successfully played off the Spanish and United States Governments against each other. Creek power, however, waned after the Treaty of Fort Jackson in 1814, which resulted in the cession, but not the occupation by settlers, of the Georgia part of the region. Probably an unanticipated consequence of the treaty was the occupation of the region on both sides of the line by the survivors of the defeated hostiles, which was expressive of its remoteness. Even after the cession of Florida to the United States, development of the region was slow, and it was not until the expulsion of the Creeks from Georgia in 1826, and the establishment of Columbus at the fall line on the Chattahoochee in 1828, that development became accelerated. A thriving trade arose with the ocean ports of Apalachicola and St. Joseph by means of steamboats, the first of which reached Columbus in 1828. Unless the river was low, in which case the boats could not ascend above Eufala, the navigation to Columbus was open the entire year. The Flint was irregularly navigable as far as Albany, but it never supported steady traffic above Bainbridge or Newton. Reliable transportation stimulated settlement along the waterways, and steamboat landings were opened about every 3 to 5 miles on either bank. The Civil War interrupted all except local river traffic within the Confederacy, and subsequently the extension of railroads to the river towns caused an increasing diversion of traffic, which became complete with the introduction of motor highway transportation.

It appears unquestionable that since the Civil War there has been a gradual withdrawal of population from much of the territory close to the river, for which a variety of factors, impracticable to consider here, were responsible. Relatively little of the land that will be inundated was actually in recent cultivation. Most was cutover and in second growth, although a little near the fork appeared virgin. Consequently the preliminary clearing operations have been unusually extensive.

In the following sketches, 14 historic sites will be discussed. Only 4 of these will be submerged, and consequently only these 4 come within the scope of the responsibility of the National Park Service. It appeared desirable, however, to consider a number of others that will not be flooded, not only because of their own intrinsic interest, but because 3 at least, namely, Camp Recovery, Fowl Town 1, and Fort Hughes, are tributary or secondary to Fort Scott, which will be submerged.

The following sites, which will be submerged, are distinguished on map 8 (frontispiece) by consecutive capital letters, viz:

A. Econchatimico's Reservation
B. Fowl Town 2
C. Sabacola and Cherokeeleechee's Town and Fort
D. Fort Scott

Adjacent to the impounding, and distinguished by consecutive numbers on the map, are the following:

1. Ekanachatte or Red Ground
2. San Carlos
3. Nicolls' Outpost
4. Ellicott's Observatory
5. United States Arsenal
6. Camp Recovery
7. Oklafunee or Coxpur
8. Fowl Town 1
9. Fort Hughes
10. Burges' Town

The foregoing are regarded as historic sites because of available documentary records, either written or printed, which preserve a greater or less amount of information revealing their significance. Certain of these, such as Ekanachatte and Oklafunee, are purely aboriginal. There are numerous other aboriginal sites in the area that are ignored because of the absence of historical data regarding them. While some of these may be protohistoric the majority are prehistoric, and their investigation and description pertained to the archeologist.

There are two sites deliberately omitted from this report. The first is that of the Confederate Ship Yard on the Chattahoochee River, where two ironclads were constructed during the Civil War.

A position on the east bank of the Chattahoochee south of Saffold bearing this name is shown on sheet 8 of the 1943 aerial mosaic map prepared by the United States Engineers. The authority for this identification has not been discovered. It was thought it might have been derived from the plat of the 1872 survey of that river by the United States Engineers, when there is every reason to believe the surveying party must have included a number of men intimately familiar with the river who could have identified the site from personal acquaintance, and when vestiges of the installation likely were still present. This plat, however, is not discoverable in either the Mobile or Washington offices, and it is believed to have been lost when the Mobile office was destroyed by a hurricane in 1916. Although the site was visited, no remains were discernible, although it was alleged that a line of piling parallel to the bank is revealed at low water. The site is situated about one-half mile south of U. S. Highway 84, where the river pool will be confined within the existing banks. No living local resident could be found who recalled the significance of the site.

The second site omitted is a river landing on the east bank of the Flint River about 1 mile below Fort Scott, at or just below the convexity of the river bend. It bore the name of British Burial Ground Landing. The earliest utilization of the name encountered is on an anonymous list of Flint River Landings published in 1901. The existence of this landing is largely forgotten, and of the few persons who could recall the name either expanded as given above or contracted as British Landing, none could afford an explanation for its application. Its distance from the fork would appear to preclude any connection with Nicolls' Outpost. The general area of the landing was not visited until after clearing operations were completed, when nothing significant was discoverable. It remains an intriguing mystery.

Early Indian paths and pioneer roads are shown on map 8 (frontispiece) in solid lines. The position of the path along the west side of the Chattahoochee, and that of the Pensacola-St. Augustine road are based on the Purcell-Stuart map of 1778; the others are from the 1820 plats of the surveys of the Georgia land districts. Railroads and modern roads are shown in dotted lines.

Although one or more visits were made to every site, with the exception of the Arsenal, the only one on which tangible structures remain, it has been impossible to pinpoint the position or extent of the sites with exactitude. Indeed, the position of Fowl Town 1 has so far not even been approximated. The best that for the present can be said for this site, is that it probably lies somewhere along a 3- to 4-mile arc having a radius of about 3 miles, centering on Fort Hughes. Local memory of their significance has disappeared as completely as their vestiges. The prosecution of the fieldwork consequently gave rise to a deep sense of frustration. This, however, is to be expected when dealing with structures erected from easily perishable materials.

The sites are systematically discussed in the following 14 sketches under the headings: Location, Identification, Condition, Authentication, and Interpretation.

PART 1. HISTORIC SITES THAT WILL BE SUBMERGED IN THE WOODRUFF RESERVOIR

ECONCHATIMICO'S RESERVATION

This was the northernmost of three small Indian Reservations located on the west side of the Apalachicola and Chattahoochee Rivers, which were created by the terms of the Treaty of Moultrie Creek in 1823, and was assigned to Econchatimico. The latter is identified by his title, meaning Red Ground (Town) King, rather than by his name, which is unknown.

Location.—On the west side of the Chattahoochee River in Jackson County, Fla. It occupied part of fractional township 5 North, range 7 west, comprising all of fractional sections 16, 21, and 28, and parts of fractional sections 9 and 33, all lying along the riverbank, and parts of whole sections 8, 17, 20, 29, and 32, comprising altogether less than 4 square miles.

Identification.—From the plat of the above-described fractional township in the office of the Field Note Division, State Department of Agriculture, Tallahassee (see pl. 46). The reservation was laid off by Col. James Gadsden, in accordance with the terms of the Treaty of Moultrie Creek (1823) in the spring of 1825, and the fractional township which embraced the reservation was subdivided into sections (outside the reservation) in the same year. After the reservation was relinquished by Econchatimico, its interior was laid off to coincide with the interior divisions of the embracing township in 1843. This plat shows that at the latter date the extensive Indian "old fields" were already occupied by squatters. Colonel Gadsden's field notes of this survey cannot be located in the National Archives.

Ownership.—With the exception of about 80 acres, the entire area of the former reservation has been purchased by the land acquisition office of the United States Engineers, and ownership is now vested in the War Department. The greater part lies below the 78-foot contour, and will be flooded.

Condition.—Prior to the clearing operations, the entire tract was either in woodland, abandoned fields, or pasture. Several knolls of red clay will not be submerged.

Authentication.—The duration of the occupation of the reservation, and the position of its boundaries are well documented. The area has been well explored archeologically by Ripley Bullen (1950), who found numerous sites indicative of an extended aboriginal occupancy, which he numbered for identification. Two sites, numbered 16 and 21, could not be correlated with any recognized archeological period. Two others, Nos. 25 and 31, were identified as of Weeden Island period, and one, No. 22, as of Fort Walton period. One, No. 25, presented sherds of both Weeden Island and Lower Creek types, while three, Nos. 28, 29, and 30, presented sherds of the Lower Creek types. The last clustered in the vicinity of an old river landing known as Port Jackson, and although too far north from the south line of the reservation for the approximate position of Econchatimico's residence, nevertheless probably mark the site of his village of Tock-to-ethla, appropriately meaning "River Junction," from the Creek Etoh, meaning "together," and Wethlocko, meaning "big water" or "river" (Simpson, 1956).

Interpretation.—In the later interpretative section treating of Ekanachatte, it will be shown that by 1821 Econchatimico and his followers had abandoned that site and moved lower down the river to a position about 10 miles above the fork, the name of their settlement being variously given as Tock-to-ethla, Totoawathla, or Totowithla, and that Econchatimico secured from the United States Commissioners at the Moultrie Creek council on September 18, 1823, the concession of a personal reservation on the west bank of the Chattahoochee River. The limits of the reservation, as described in the special article appended to the treaty, were as follows:

> Commencing on the *Chatahoochee*, one mile below Econchatimico's house; thence up said river for four miles; thence one mile west; thence southerly to a point one mile west of the beginning; thence east to the beginning point.

The United States promised to guarantee the peaceable possession of the reservations to the chiefs and their dependents only so long as they continued to occupy, improve, or cultivate them, and in case of abandonment, they would revert to the United States. The chiefs were empowered to select the individuals who should remain with them and were required to submit a list of the names of these to the Superintendent of Indian Affairs, and it was agreed that none other should be received or permitted to remain without permission of the Superintendent. Voluntary removal to the southern reservation would be permitted, and the United States reserved the right, in the event of misconduct, to compel their removal to the southern reservation.

Subsequent to the portentious treaty of Payne's Landing in 1832 to which the Apalachicola bands were not parties, separate negotiations were conducted with these bands for the cession of their reservations. Col. James Gadsden, United States Commissioner, could not get Econchatimico and Mulatto King to participate in the negotiations which resulted in Blount's relinquishment of his reservation (the lowermost) in 1833, but after further conferences with Mulatto King and Econchatimico, he secured their marks to separate treaties at Pope's, Fayette County (a short-lived dismemberment from Jackson), on June 18, 1833. By these treaties they agreed to surrender to the United States all their interest in their reservations, in return for which the Government would allow them to exercise either of two options. In any case the United States would, within 3 years, cause to be surveyed off three sections of land embracing their improvements, and patent it to them. Within this period of 3 years the Indians might dispose of the land conveyed to them at private sale and emigrate, in which case the expenses of removal would be at their personal cost; but should they elect to remain, the protection afforded them by the United States would be withdrawn, and they thereafter would be subject to the territorial laws and government. Alternatively they could become parties to the treaty of Payne's Landing, and receive $3,000 for the land relinquished. The treaties were ratified by the Senate, April 12, 1834.

Despite the circumstance that Econchatimico and his followers appear to have conducted themselves with all possible decorum, a series of events finally took place to disturb their tranquillity and threaten their safety. Econchatimico possessed several Negroes whom he had inherited under Indian law many years before Florida was acquired by the United States. This aroused the cupidity of a prominent planter of Jackson County.

In 1833 a bill of sale was produced, allegedly executed by a relative of Econchatimico as purported owner of these slaves, by which title to 10 of them with their increase was transferred to a Creek Indian who shortly thereafter, for a consideration, resold the slaves to the planter. The latter instituted action for an attachment against Econchatimico in the Superior County Court. This move, coming to the attention of the acting Indian Agent, was brought to the notice of the acting Territorial Governor, John D. Westcott, who referred it to the Secretary of War. The Secretary issued instructions that a judicial proceeding should be instituted before the United States District Judge. Judge Cameron halted the proceedings while he instituted an investigation of the intricate case, which required 2 years for completion, and found that the planter had no shadow of title to the slaves, who rightfully belonged to Econchatimico. Before this opinion was delivered, however, the planter voluntarily dismissed his attachment, but it was soon known that he had sold his claim to other persons who apparently were professional slave stealers from Georgia and Alabama. Hostilities having openly broken out with the Indians of the peninsula and with the Creeks, it was easy for these slave stealers to alarm the whites living adjacent to the reservation by spreading reports that Econchatimico and his band meditated mischief. Their neighbors were thus induced to enter the reservation and disarm the Indians. While they were in this defenseless condition, the slave stealers appeared with accomplices on March 10, 1836, assaulted Econchatimico, and forcibly seized the Negroes and removed them from the territory. Although their identity was known and they were promptly indicted by the grand jury, these slave stealers were never apprehended nor were the slaves recovered. In view of the hopeless outlook, Econchatimico futilely petitioned Congress for indemnificaton (Message: H. Doc. 271; 24 C.–1:24).

During the period of the lawsuit described, Econchatimico sought the advice of Gen. Wiley Thompson, the Agent, in 1834, as to the best course to free himself from the annoyance caused by lurking persons who sought to kidnap the Negroes. Thompson pointed out that the distance of the reservation from the Agency made it difficult to provide protection, and suggested that Econchatimico remove to the vicinity of the Agency. He offered him the privilege of using the plantation connected with the Agency to make a crop. Econchatimico appeared interested, and doubtless had General Thompson found the time to press the matter, Econchatimico would have removed that year, as the project received the approval of the Office of Indian Affairs.

The Indians along the Apalachicola appear to have been the only Florida Indians interested in the educational opportunities provided by the treaty. Econchatimico sent several boys from his band to the Choctaw academy in Kentucky.

Although Econchatimico appears to have been convinced that emigration offered the only solution for an escape from the pressure the Indians experienced, his actual steps in this direction are obscure. That he was friendly to the United States in 1836 appears certain, as in his petition to Congress of April 2 he stated that he had sent some of his warriors to aid the United States against the lawless Seminoles; this was verified by the former subagent to these Indians, William S. Pope, who stated in April 1836, that actually 11 warriors had left to be with the troops. These recorded dates indicate that in 1836 Econchatimico was actually residing on the reservation.

In supporting Econchatimico's petition in 1836, former Governor Duval stated that the chief was an old man, now destitute of assistance to cultivate his land, and must with his family suffer want if adequate remuneration for his loss was not speedily made to him.

The Comte de Castelnau (1948), who passed up the Chattahoochee in 1838, mentions passing the Indian village of Hitchetan (pl. 47) on the west side, the chief of which, *Ecouchatemico* (*sic*=Econchatimico), is also called king of the red lands. He further states that Econchatimico was an old man, bent with age, who had had his nose and ears cut off for the crime of adultery. The source or derivation of the name "Hitchetan" is unknown, but it is evident that the name "Tocktoethla" had fallen into disuse about the time the reservation was created.

It is likely that in the early years of the war with the Indians of the reservation down the peninsula, the Government overlooked the agreements reached with the Apalachicola Indians. This oversight, however, was corrected in 1838 when on July 18, one Daniel Boyd was appointed to supervise and conduct their emigration. He made an appraisal of their improvements, to which he gave a valuation of $3,000. An effort was made to secure payment of this amount with Congressional sanction, from the sum of $15,400 due the Seminoles proper under the treaty, which was denied. These Indians did receive payment of the $3,000 due under the terms of their cession treaty on the day of their departure from the reservation (House Rep. 746; 27 C.–2: 5).

The final history of these Indians is soon told. In a report to the Adjutant General, dated Tampa, July 1839, Bvt. Brig. Gen. Z. Taylor related (Sprague, 1848, p. 221):

> With a view to compel the emigration of the Appalachee [sic] Indians, who had engaged to leave the country on the 20th October, and who had made some objections to a removal, I left Tampa on or about the 2d of October (1838), for their towns on the Apalachicola river, which I reached on the morning of the 12th, with two companies of mounted men (one dragoons and one infantry), the whole under command of Captain E. Backus, 1st infantry, and found on my arrival a portion of the 6th infantry under Major Noel.
>
> On the day fixed for their removal, I succeeded without the use of compulsion, in embarking the whole of the Appalachee [sic] Indians, about two hundred and twenty in number, to their new homes beyond the Mississippi.

Under the erroneous designation "Appalachee" Indians, Taylor included not only Econchatimico's band, but also the band of Mulatto King.

According to Foreman (1932, p. 368):

> The steamboat *Rodney* was engaged to transport the whole of the Apalachicola tribe numbering 300, and 34 Creeks who had taken refuge on Dog Island. These Indians refused to embark until they were paid the pittance promised them for their land and this was done as soon as they boarded the boat at Pensacola, ...
>
> Gen. Zachary Taylor advised against the risk of taking so many Indians to sea on one steamboat, and Daniel Boyd, the conductor of the emigrants, chartered two schooners, the *Vesper* and the *Octavia* to carry part of the emigrants as far as New Orleans. They sailed from Pensacola October 29 and arrived at New Orleans four days later. There the passengers on the schooners were transferred to the *Rodney* and passage up the Mississippi river began. By the eleventh they were opposite Princeton, Mississippi. The emigrants, said Boyd, had suffered very much from sickness. Six have died since we left the Chattahoochee and

> more than twenty are now on the sick list. The weather has been unusually cold for this season, which has no doubt increased the number of invalids. The water in the Mississippi river is very low; we lay two days upon a sand bar about twenty-five miles above Vicksburg.
>
> Boyd with his emigrants arrived at Montgomery's Point at the mouth of White river on the thirteenth, where he was obliged to wait for an increase in the stage of the Arkansas river, which brought him to Little Rock on November 22. As there was not sufficient water for the *Rodney* to ascend higher, the emigrants were transferred to the *North St. Louis*, a steamboat of lighter draft; they took their departure soon after and had gone about fifty miles when further progress was prevented by a bar in the shallow river. The Indians were then put ashore; their conductor hired teams to haul their sick and provisions and started with his people for Fort Gibson.

It is not known whether Econchatimico was alive when the emigration began, or, if so, whether he survived the journey.

FOWL TOWN 2

The reason why this locality, regarded as the original Perryman family homestead, was contemporaneously called Fowl Town, has not been ascertained.

Location.—The plat of the survey of fractional lot 196 of Land District 14 of the original Early County, Ga., displays the words "Old Fowl Town" inserted so as to occupy the entire west side of the lot, beginning where the Chattahoochee River cuts off the northwest corner. The river area is about a mile northwest of the buildings on the Fairchild plantation, and more or less on the site of the Fairchild river landing. It is in the present Seminole County, Ga. (pl. 48, *c*).

Identification.—Survey Book DDD in the Surveyor-General Department, Atlanta, indicates that this lot was surveyed on January 25, 1820. Although this Fowl Town is represented on several maps of Georgia made in the two or three subsequent decades, no earlier cartographical representation of the site is known. It seems probable this can be identified with the "Perimans" shown on the Early map of Georgia, 1818, reproduced as plate 9 in Swanton (1922). No other direct references to the site have been encountered.

Condition.—Obliterated. Before preimpoundment clearing operations the site was in woodland, traversed by a nearly overgrown trail to the landing.

Authentication.—Detection of an exposed shell midden on the caving riverbank led to the discovery of the site in 1948 by A. R. Kelly and Frank S. Jones (pl. 49, *a*). Recognition would otherwise have been impossible, as the original humous topsoil of the river bottom is covered by an overburden of sand-clay silt from 2 to 4 feet thick, on which the recent forest cover was growing. Some excavation was carried on in 1951 by students of the University of Georgia Summer School. More extensive excavations were carried on in 1953 by Joseph Caldwell of the National Park Service. Plate 49, *a*, shows the vertical section he made through the clamshell midden on the crest of the riverbank, revealing the depth of silt deposit above the midden.

The sherds found in the early phases of the explorations indicated, according to Dr. Kelly, the presence of four cultural horizons, which from the most superficial downward were:

(a) Pure check stamp of the Montgomery Fields type
(b) Some phase of the Weeden Island
(c) Swift Creek
(d) Pre-Swift Creek, unassociated with shell deposits.

Caldwell related (personal communication) that in the later stages of his fieldwork, exploratory trenches were extended to the upper portion of the site, which revealed some sherds of the Chattahoochee brushed or scratched pottery, iron nails, a fragment of china, and a piece of green glass, all of which are consistent with late 18th-century occupation. These, of course, belong to a horizon higher than "(a)" on the previous list.

Interpretation.—While the most superficial of the artifacts described are correlated with occupation in historic times, and to this extent confirm the notation of the land plat mentioned, the unavailability of other historic data hampers productive discussion.

A point of some interest on the 1820 district survey plat is that the Indian path shown running from Fort Gaines to the fork passed by the site, which was also connected with Fort Scott by two direct paths. This suggests that the occupants were on amicable terms with the Fort Scott garrison. This further suggests that the latest occupants were some members of the numerous Perryman family. Some confirmation of this inference is afforded by Doyle (1938–39), who, speaking of the radius of operations of the friendly Indians in the service of the United States at Fort Gaines, said that in pursuit of marauders they could seldom venture lower than old Perryman's former dwelling about 40 or 50 miles below Fort Gaines. Actually this site is about 53 miles in a direct line below Fort Gaines. His allusion to "old" Perryman, and the implication that the site was then abandoned, suggests that the original Perryman occupancy might have gone as far back as the white trader, Theophilus Perryman of the 18th century, or his halfbreed son Jim, onetime resident of Okatiokana (Okitiyakani), and progenitor of the numerous Indians of this name (Woodward, 1859 p. 107). It may be recalled that the celebrated adventurer, William Augustus Bowles, married the daughter of a Lower Creek chief named Perryman, and doubtless owed much of the influence he wielded to this alliance. A statement by Woodward (1859, p. 157), in describing the contents of the letter that he drafted to General Gaines before Fort Gaines in January 1818, when under the suspicion, shortly proved erroneous, that the fort was in possession of the Indians, stated that in the event of his repulse, he would try and "descend the river [to] below the Perryman Town and go across to Fort Scott," affords further confirmation of this inference. The direct path from this site to Fort Scott, suggests that it contemporaneously might have been the residence of George Perryman, onetime caretaker of Fort Scott. All this, however, hardly seems consistent with the application of the name "Fowl Town" to the site, unless this has the implication that the occupants were Hitchiti speakers.

SABACOLA, AND CHEROKEELEECHEE'S TOWN AND FORT

These closely adjacent and possibly overlapping sites were not simultaneously occupied. The second settlement occupied the vacant fields of the first settlement after the first had been abandoned.

Lieut. Diego Peña (Boyd, 1949) is the authority for the opinion that if the sites are not identical, the latter is clearly adjacent to the former, from his statement that the latter was situated in the "old fields" of the former.

Location.—The MSS Colonial Office map (N. A. C., General, 7) of North Carolina, South Carolina, Azilia, Florida, Carolana, Louisiana and the Southern Indian Country (circa 1721-27) is, according to Crane (1928), the first detailed English map of the southern frontier. It is a compilation of data derived from various informants, among whom Colonel Barnwell was likely prominent. The positions shown are roughly relative and consequently, as well as from its scale, the map is devoid of value for exact site identification, at least in this area. It is of interest because in the point of land in the fork of the Apalachicola River it shows a large scale symbol for a fort, accompanied by the following legend:

> In 1716 the Palachucolas Removed to this Place and Built this Fort under Cherekeele(ch)ee their Leader.

Wright's map (1763) does have the merit of representing the Flint River to change from a westerly to a southerly course as it approaches the confluence. It shows, just below this bend on the west bank of the Flint, an "Indian Fort." Neither fortification or village is shown at the fork on the Purcell map of 1778.

Prior to the completion of the clearing operations in the peninsula at the fork of the Apalachicola, thorough archeological exploration was virtually impossible, as the area was covered by a dense forest growth, which, probably because it had been cut over, had a very nearly impenetrable undercover of saplings and shrubs. Despite this obstacle a reconnaissance by A. R. Kelly in 1951 revealed a low mound (site 9 SE 27) about the center of Lot 42 of Land District 14 of the 1820 land survey plat of the original Early County, now forming part of Seminole County, Ga. In 1953 he discovered scratched and brushed Lower Creek sherds in a turkey patch (a small clearing in which turkeys are baited) in fractional Lot 36 (site 9 SE 20), close to the west bank of the Flint River, about a half mile southwest of Gaulding's Landing (pl. 49, *b*, *c*). It is this site which bears the identifying letter "C" on the frontispiece map. Plate 49, *b*, shows a view into the turkey patch, looking east, before the clearing of the surrounding timber; the earth spoil to the right within the entrance is from exploratory trenching. Plate 49, *c*, shows a view over the former turkey patch, looking east, after the clearing operations have destroyed the forest cover; the further extremity of the pile of spoil (left) is shown on the right side in plate 49, *b*; the trees still standing in the distance (right) are adjacent to Spring Creek. These observations were resumed in association with Roland Bowers subsequent to the clearing of the turkey patch. Mr. Bowers relates that at that time several postholes indicative of some structure were encountered, as well as sherds of smoky green glass, a fragment of the stem of a clay pipe, and a broad-bladed steel hatchet or tomahawk.

Upon completion of the clearing operations, a thorough reconnaissance of the entire peninsula was made by Joseph Caldwell, archeologist of the National Park Service, who has personally communicated the substance of his discoveries (fig. 10), which he courteously has permitted me to summarize.

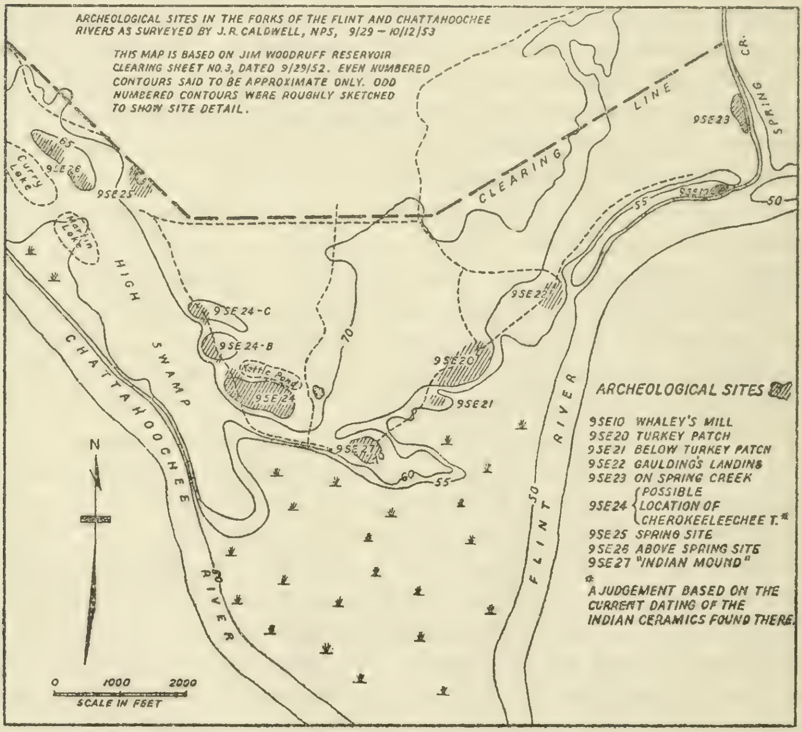
ARCHEOLOGICAL SITES IN THE FORKS OF THE FLINT AND CHATTAHOOCHEE RIVERS AS SURVEYED BY J.R. CALDWELL, NPS, 9/29 – 10/12/53
THIS MAP IS BASED ON JIM WOODRUFF RESERVOIR CLEARING SHEET NO. 3, DATED 9/29/52. EVEN NUMBERED CONTOURS SAID TO BE APPROXIMATE ONLY. ODD NUMBERED CONTOURS WERE ROUGHLY SKETCHED TO SHOW SITE DETAIL.
CLEARING LINE
SPRING CR.
9SE23
9SE10
55
50
65
Curry Lake
9SE26
9SE25
Kinnard Lake
HIGH SWAMP
CHATTAHOOCHEE RIVER
9SE24-C
9SE24-B
Kettle Pond
9SE24
70
9SE22
9SE20
9SE21
9SE27
60
55
FLINT RIVER
50
N
0 1000 2000
SCALE IN FEET
ARCHEOLOGICAL SITES ▨
9SE10 WHALEY'S MILL
9SE20 TURKEY PATCH
9SE21 BELOW TURKEY PATCH
9SE22 GAULDING'S LANDING
9SE23 ON SPRING CREEK
9SE24 POSSIBLE LOCATION OF CHEROKEELEECHEE T.*
9SE25 SPRING SITE
9SE26 ABOVE SPRING SITE
9SE27 "INDIAN MOUND"
* A JUDGEMENT BASED ON THE CURRENT DATING OF THE INDIAN CERAMICS FOUND THERE.

FIGURE 10.—Plat of archeological reconnaissance in the fork of the Apalachicola River.

Referring to figure 10, it will be observed that along the convexity of an arc roughly marking the sweep of the 60- and 70-foot contours between the rivers, no less than 11 aboriginal sites were discovered to the west of Spring Creek. The heavy silt overburden in the river swamp below these contours prevented exploration in this area; nor was any evidence of intensive occupation discovered to the north of this zone.

The surface collections made at these sites show that only two (sites Nos. 9 SE 20, the turkey patch, and 9 SE 24) have a historic phase.

The pottery complex from 9 SE 20 more clearly resembles the usual historic complexes from the general area as described by Bullen (1950), which could be readily demonstrated to be later than 1716.

At site 9 SE 24, on the other hand, superficial scraping with a power scraper revealed postholes pertaining to some edifice, adjacent to which was a pit or trench yielding about half a bushel of sherds and European artifacts. The surface finish and decoration of the sherds showed numerous specific similarities to those found on the presumed site of Palachucolas on the Savannah River, where Cherokeeleechee resided prior to 1717 (Caldwell, 1948).

Such pottery has previously not been found in southwest Georgia, and hitherto has been known only from the Savannah River, Macon (Ocmulgee Fields Hitchiti), and the Kasita site near Columbus. The associated trade artifacts at 9 SE 24 are of English rather than Spanish manufacture. Thus of the 11 sites, 9 SE 24 is the only one which tentatively can be regarded as that of Cherokeeleechee's town. This lies from 2,000–3,000 feet west by south from the turkey patch site (9 SE 20), represented on the map by the letter "C," and probably is situated in fractional lot 113, to the west of lot 42. Should this identification of site 9 SE 24 be correct, then as will be later shown, there is reason to believe that Sabacola el Menor was on a different site, which by exclusion, would appear to point to 9 SE 20 as its former location.

The 1820 plat of the land district shows the Indian trail on the east side of the Chattahoochee River to terminate about the center of lot 42, which lies directly to the west of lot 36. This suggests that there had been some occupation of the locality, probably by hostile refugees, up to about the time of the establishment of Fort Scott.

Identification.—Presumptive.

Condition.—Obliterated.

Authentication.—The nature of the artifacts discovered by Caldwell on the site 9 SE 24 is of such a character as to afford a strong presumption that this is the site of Cherokeeleechee's village.

We are not aware of any recorded visit to the site in the late 17th or early 18th centuries by any Carolinian, and their references to Cherokeeleechee's occupation are doubtless based on reports from Indian informants.

Interpretation.—Some preliminary orientation is necessary before proceeding with this sketch. On the map of 1721–27 previously referred to, mention was made of the Palachucolas. This word is an English elision of the name Apalachicoli, applied to one of the 13 Lower Creek villages on the Chattahoochee on the earliest town list known to us, that of the Bishop Calderón, later discussed (Wenhold, 1936). When first known, the Spanish believed this town exercised preeminency over all other Lower Creek towns, in recognition of which they called the Lower Creek settlements on the Chattahoochee, the Province of Apalachicoli. Some, at least, of the people of this town early became inclined to the English, and moving across Georgia, established a settlement on the right bank of the Savannah River about 1680 (Swanton, 1922, p. 131), roughly contemporaneous with the Yamassee exodus from Guale. This town was known as Palachucola, and was established several years before English influence was manifested on the Chattahoochee. This became an important stopping point for the English traders on their inland journeys. A substantial remnant appears to have remained on the Chattahoochee (Bolton, 1925).

Our earliest acquaintance with Sabacola is likewise derived from the letter to the Queen of Spain, in which Gabriel Diaz Vara Calderón, Bishop of Cuba, described his pastoral visit of 1674–75 to Florida, in the course of which he penetrated as far as the periphery of the Province of Apalachicoli, escorted by an armed party of soldiers and Indians (Wenhold, 1936; see also San Carlos herein, p. 257). This was not written until his return to Havana, the covering letter for which was dated January 4, 1676. His descriptions and distances for the Province of Apalachicoli are vague, misleading, and conflicting, in marked contrast to his account of Timucua and Apalachee. Although east of San Luis his leagues with fair accuracy work out at 2.6 miles, the total distance of 14 leagues or 36.4 miles he gave from San Luis to the later mentioned La Encarnacion on the Apalachicola, is impossibly short.

With regard to the Province of Apalachicoli, the bishop wrote:

> At two leagues from . . . San Luis [of Apalachee] on the northward, is the river Agna [Ochlockonee] which divides the provinces of Apalachee and Apalachicoli, and at a distance of twelve [leagues from it] is a heathen village formerly called Santa Cruz de Sabacola el Menor on the bank of another large and rapid river which takes the name of that province which it traverses from north to south. This village now [is known as] La Encarnacion a la Santa Cruz de Sabacola, [its] church having been dedicated to this sovereign mystery on Thursday, February 28 of this present year [1675], in the presence of the great Cacique of that province and his followers from Sabacola el Grande who I converted to our Holy Faith. It will be a large settlement and conversion when

augmented by [the population of] the thirteen Apalachicoli towns on the banks of the river thirty leagues to the north, who have expressed a similar intention.

It is credible that the bishop himself was present and officiated at the dedication and likely performed the baptism of the new converts, but since by his own account elsewhere, he was in Apalachee as late at February 2 of the same year, it hardly seems likely he could have personally effected the conversions and erected a new church, however crude, in less than 4 weeks, unless the latter, of course, was achieved by the labor of his numerous escort.

Since it is known that Fray Roderigo de la Barreda and a companion had initiated missionary labors immediately across the river in the Province of the Chatots in 1674 (Leonard, 1939), it is not unlikely that another missionary was at work in Sabacola el Menor at the same time, so that the bishop's visit came as the climax to a proselyting program of some duration.

The bishop introduces us to two towns named Sabacola, the lesser and the greater, the latter being included in his list of 13 Lower Creek towns. Sabacola el Menor is regarded as a colony from Sabacola el Grande, and at the time of the bishop's visit, appears to have been a settlement of some standing.

The bishop's application of the name Apalachicoli shows that it was extended to include the present Chattahoochee River. While his statement indicates that Sabacola el Menor was adjacent to the bank of a river, it is not evident that this could be the bank of the present restricted Apalachicola River. Since his account does not disclose that it was necessary to cross any other named or unnamed stream to reach it from the east, it is uncertain whether he crossed the Flint River to reach a town on the east bank of the Chattahoochee. From this one might conclude that Sabacola el Menor of the bishop was on the east bank of the Apalachicola below the fork, in accordance with the present restricted application of the name. It will be shown later that this ambiguity is dissipated by Peña, when he related that after crossing the Flint, he found Chislacasliche's settlement to be situated in the old fields of an abandoned village which once belonged to the Sabacola. Further ambiguity arises from the use of the prefix "Santa Cruz," which would suggest that a chapel already or formerly existed in this town. This is confusing, since the bishop spoke of it as a "heathen" community.

We are discussing two early Lower Creek towns of Hitchiti-speaking Indians, which during the last quarter of the 17th century were situated along the Chattahoochee River. The first or parent town (el Grande) was on the west bank of the river. The name is encountered in different versions, depending upon whether one finds attempts to adapt it to either Spanish or English orthography. Thus among the Spanish it was given as either Sabacola (Wenhold, 1936) or Savacola (Boyd, 1949). English efforts to the same end resulted in Swaglaw (Bartram, 1791), Sau-woo-go-lo (Hawkins, 1848), or Sawokli (Swanton, 1922). About the end of the 17th century they came under English influence, and were by them persuaded to move eastward to a site along the Ocmulgee River. Here they remained until the outbreak of the Yamassee War, when they withdrew to their old haunts on the Chattahoochee. A fragmentary group from this town appears to have formed the village of Okatiokana lower down on the Chattahoochee River in the last half of the 18th century.

The bishop was impressed by the presence of the "great Cacique" at the dedication. His distinction of this individual by the adjective "great" raises the conjecture whether he might actually have been the chief of either Apalachicola, the white or peace town, or of Coweta, the red or war town. The latter was soon recognized by both Spanish and English as paramount over the Lower Creeks.

Another relation of the western missions for 1675 was provided by Capt. Juan Fernandez de Florencia, deputy governor of Apalachee, who probably escorted the bishop to the Apalachicola River (Boyd, 1948). It was transmitted to the Queen by Gov. Don Pablo de Hita Salazar with a letter dated St. Augustine, August 24, 1675, and may have reached the Queen's hands before that of the bishop. Unfortunately the section relating to the Province of Apalachicoli in the copy available to us, appears to have been badly garbled by some copyist. Attempting to correct (in brackets) the obvious omissions and errors, the transcript would read:

> From the village of San Luis toward a river by which one may go to the Province of *Apalachicola* two [twenty-two] leagues. [A further omission here.] From the said place of San[ta] Cuiz [Cruz] [Omission of distance.] is established the mission of Natividad de Nuestra Gracia, a new mission established in the year 1675, which today has very few people, which according to my information, may be as many as forty persons.

"San Cuiz" is obviously Santa Cruz de Sabacola el Menor of the bishop. Although the original draft of Florencia's report appears to have indicated that the mission of La Natividad de Nuestra Gracia was palpably distant from Santa Cruz, he declared that it was established in 1675, and since the bishop's mention of La Encarnacion stated that its dedication occurred in that year, the two might be identical, which could be the reason for the omission of the distance.

No further information relating to Sabacola el Menor is available until 1686, in which year Marcos Delgado led an expedition from San Luis to the Upper Creek towns, and apparently crossed the river below the fork. However, in a letter written to Gov. Marques Cabrera on September 29, the deputy governor of Apalachee, Antonio Matheos, commented on the absence of any news from Delgado, and said:

> It is now four weeks since Marcos left the Pueblo of Savacola . . .

but nothing in Delgado's journal indicated that he either visited or tarried in this town.

From other information in the correspondence relating to this expedition, it is clear that Savacola was near the fork of the Apalachicola (Boyd, 1937. See also San Carlos herein, p. 257).

At the time of the bishop's visit, English influence had not yet penetrated to the Lower Creek towns on the Chattahoochee River, and it was not felt there until 1685. Consequently the strength of such influence the Spanish were able to exert over them during this decade was not weakened by English counter pressure.

Although Bolton's (1925) introduction to Arredondo's treatise was based on contemporary Spanish documents, at that time he evidently was unfamiliar with either the bishop's relation or the Barreda narrative (Leonard, 1939), as his earliest reference to Santa Cruz de Sabacola in 1681 would suggest that it then was a recent settlement of Christianized emigrants from Sabacola el Grande.

Although from the bishop's reference to the presence of the great Cacique at the dedication, it might be inferred that Spanish missionary influence had penetrated up the river by 1675, Bolton's narrative does not confirm the exertion of any prior to 1679, in which year he stated that Fray Juan Ocon with two assistants ascended to Sabacola (el Grande.). Their stay was brief, as 3 days after their arrival the great Cacique ordered them away. This action manifested a complete lack of the sympathetic support so confidently predicted by the bishop.

When Governor Cabrera learned of Father Ocon's inhospitable reception, he concluded that the failure of the effort was due to the lack of a military escort. Consequently when efforts were resumed by Fray Pedro Gutierrez and a companion in 1681, they were accompanied to Sabacola by seven soldiers. Although initially Fray Pedro was greatly encouraged, the Indians became hostile within a few months, and the entire party was obliged to withdraw. According to Bolton, the converts moved down the river to a situation near the fork. This of course is an unspecific localization, but it is probably identical with the Santa Cruz de Sabacola el Menor of the bishop.

Support for the opinion that Sabacola el Menor was above the fork rather than below is afforded by the relations of Governor designate Don Laureano de Torres y Ayala and Fray Roderigo de la Barreda, who in 1693 crossed the Apalachicola on their journey from San Luis to Pensacola Bay, in which no mention was made of a contemporary town on the east bank of the river (Leonard, 1939). In further confirmation, it is known that the Sabacola of Peña was west of the Flint River.

By 1685 English influence in the person of Dr. Henry Woodward and a party of Carolina traders had penetrated from Charleston to the

Chattahoochee, and he appeared in the presence of the great Cacique. As soon as news of these trading operations became known in Apalachee, Antonio Matheos, the deputy governor, set out with a mixed party of Spanish and Apalachian Indians to apprehend the English. Woodward managed to elude them and went into hiding, but on their withdrawal, promptly emerged and resumed operations. As soon as informed of this reappearance, Matheos returned with a larger force, only again to be eluded by Woodward and his Indian sympathizers. Previous to his departure, Matheos had been instructed by Governor Cabrera to burn the Indian towns should they refuse to surrender Woodward. Matheos called a council of head men from all the towns to reprimand them for dealing with the English. Those of Coweta, Kasita, Tasquique, and Colome disregarded the summons and their towns were summarily burned. Although these later supplicated for pardon, Matheos' errand was fruitless, for as soon as he departed the English again emerged and resumed operations. Altogether five Spanish expeditions were sent out to dislodge the English, with equally futile results. In 1689, a Spanish post was established in the town of Apalachicola, which was maintained until 1691. As a consequence of this close Spanish surveillance, many Indians, including those of the burned towns, removed from the Chattahoochee to the Ocmulgee River to be closer to the English.

About this time English-instigated and often English-led parties of the Lower Creeks began to raid the mission settlements of Timucua and Apalachee. These appear to have been conducted to further two objectives, viz: (*a*) the destruction or enslavement of those Indians who were the most intense Spanish partisans; and (*b*) the intimidation of less loyal converts so they either would return to their towns of origin, or assent to removal en masse to situations close to the English settlements. The tempo of these raids became so intensified that after 1704 Timucua and Apalachee, and virtually all of Florida outside of St. Augustine, were depopulated. Although Spanish counterattacks on Carolina during this period were ineffective, with Indian relocation Carolina became free from even this annoyance. The English treatment of these Indian neighbors became high handed and oppressive, and an intertribal plot developed, presumably at the instigation of the great Cacique or Emperor of Coweta, to exterminate the English. The war on the unsuspecting English broke out in 1715 and nearly succeeded. The English secured the defection of the Cherokees, and the Creeks were so roughly handled that they withdrew their settlements from the Ocmulgee to the Chattahoochee, and others, recalling their former inclination for the Spanish, returned to Florida or its vicinity.

It may be surmised that the pressure described caused the population of Santa Cruz de Sabacola to abandon their settlement some time shortly after the beginning of the 18th century and return to the mother town on the upper river.

Prominent among the Indians revolting against English control during the Yamassee war were the inhabitants of Palachucola on the Savannah. Their leader, depending whether English or Spanish orthography of his name is followed, was known as Cherokeeleechee (=Chalaquiliche=Chislacasliche), indicative of a former prowess in killing Cherokees. When the conflict went against the Indians, those who had been relocated along the Savannah River fled to interior situations. Cherokeeleechee with his band did not rejoin their townspeople on the Chattahoochee, but descended to the fork, where they occupied the abandoned chicaza (conjecturely Apalachean for "old field") of Sabacola. His hostility to the English was so intense that he attempted to ingratiate himself with the Spanish, and he made a visit to St. Augustine in 1715, where he rendered submission. Probably through faulty interpretation, the Spanish gained the impression he was the great Cacique. He returned to St. Augustine in 1716 soliciting that a Spanish embassy be sent to meet the great Cacique or Emperor of Coweta, which straightened out the matter. Lieut. Diego Peña was given the assignment of leading a small Spanish gift-bearing party to Coweta, to compliment the Emperor and secure his adherence to the Spanish interest. Peña repeated the journey in 1717 and 1718, being accompanied by an Indian escort headed by Cherokeeleechee on each of his first two trips. His surviving journals are unusually informative. On each journey the parties traveled westward from St. Augustine through Timucua and Apalachee to the fork, where Cherokeeleechee's village was located. So far as known, Peña was the only European to have left an account of a personal visit to Cherokeeleechee's town. Passages relating to the town are quoted from Peña's journal and reports of 1716 and 1717 (Boyd, 1949, 1952). From the 1716 journal the following is quoted:

> (Sept. 9) On this day arrived twelve men sent by the casique, that they might conduct us carefully to his village of Savacola.
>
> (Sept. 13) . . . we arrived at the river of this village of the casique Paypa Mico. In order to arrive at the river, we crossed a large canebreak.
>
> This day marched one league and crossed the river which they call Rio de Pedernales [Flint]. Here the two rivers, the Pedernales and the Apalachicola are confluent. . . . From the said river to the village is about half a league. . . .
>
> (Sept. 20) I left this place of Chislacasliche, which is in the *chicaza* of a village which belonged to the Sabacolas, on the 20th. . . .

From a letter dated Sabacola September 20, 1717:

> The twenty fourth day of August I arrived at the village of Chislacasliche. . . .

From a letter dated Santa Fe, October 8, 1717:

> The twenty-fifth day [of September] I left the village of Chislascaliche, and after passing the river I encountered a storm . . . which obliged me to camp . . . where I was detained three days. . . . The same day about seven of the

> night, there arrived a courier who called to Chislacasliche saying that two men had arrived . . . from Apalachicolo with a verbal message . . . for him alone. He returned to the plain the twenty sixth day. . . . They further said . . . that consequently he [Chislacasliche] should look to fortifying himself well. . . . They [Chislacasliche's followers] remained in the said village making an extensive stockade because of the advice given to immediately make a fort. . . .

In undertaking an interpretation of these statements which are more noteworthy for their ambiguous terseness than for clarity, certain considerations must be borne in mind. It is not known whether the retired Lieutenant Peña had seen service in Apalachee in the final years of the mission period, or whether he was able to converse directly with the Indians without the aid of an interpreter, although accompanied by an Apalachean interpreter, the Ensign Diego de Florencia, who may have been a member of the family of that surname which formerly resided in Apalachee. His only mention of the exercise of the ensign's special services is at a council held in Apalachicola, where the speech was likely Uchise (otherwise Hitchiti). It should be noted that the 1716 observations are from a daily journal written when he very evidently was unfamiliar with the terrain; that for 1717 is a matter of fact narrative written when the route and its sites were no longer novelties. Thus before his arrival at the Flint, when his orientation probably was based on what likely were imperfectly understood statements of the Indians, he (1) employed the word village (pueblos) in the plural; (2) twice mentions a nameless cacique who sent men to serve them as guides to his village of Savacola; (3) twice mentions a brother of Chislacasliche in connection with the loan of horses. It is likely that his Indian companions continued to casually refer to the village as "Savacola," and that Peña at this time did not realize that the original Savacola el Menor had by then been long abandoned. His statement that on the 13th they "arrived at the river of this village of the casique Paypa Mico," is highly ambiguous. Apparently the only safe inference to be drawn from it is recognition of the river as the Flint, which they crossed without delay. There is nothing to indicate whether this village was on the east or west side, close to or remote from the bank, or whether it was the objective of their march on that day. In the latter case, which appears entirely plausible, the village was the place to which Peña had previously alluded to as Savacola, and that Paypa Mico was its chief, and inferentially, Chislacasliche's brother. It is to be regretted that Peña did not record the name of the chief who expressed greeting of welcome. It likely was Paypa Mico, and that Peña felt that repetition of the name would be superfluous. During his week's rest in the village, Peña became completely oriented, so that subsequently he invariably referred to it as the place of Chislacasliche. He further learned that the village, which he never distinguished by a name of its own, was not located on the site of the village which belonged (note the past tense) to the Sabacola, but which instead was situated in a chicaza or old field of the former. This indicates that while the village of Sabacola el Menor was abandoned, the name by association continued to be applied to the locale, and that Chislacasliche picked on the old field, situated somewhere in the close proximity of the former Sabacola el Menor, as the seat of his settlement, probably because of its open character.

The 1717 letter dates the building of the stockade or fort, which was done at a time when the English faction in the Chattahoochee towns was in the ascendency, and Chislacasliche's Spanish inclination put him in peril.

According to Crane (1928, p. 266), the town was abandoned within a few years. He made the statement that a Tallapoosa band which had been warring on the Yamassee in Florida, returned via Fort Moore and Charleston, and reported that the notorious nest of marauders, Cherokeeleechee's Town, was broken up. Considering the outward route this band likely followed on their way to Florida, this information could well express their personal observation rather than hearsay. Be that as it may, if the site was vacated it more likely was a voluntary abandonment rather than the consequence of eviction. However, in 1725, Tobias Fitch (Mereness, 1916 b, p. 193) related his efforts to secure the release of a captive Englishwoman detained in Cherokeys-Leech-che's town, and in 1728 Indians from Cherokeeleechee's town were credited with accompanying Yamassees on Carolina border raids (Crane, 1928, p. 247). Bolton (1925) identifies Chislacaliche with Chigilly, and described his reception of Oglethorpe at Coweta in 1739. This opinion of Bolton's appears untenable, since Fitch encountered Old Brims (the Emperor), Sepe Coffee (=Chipacasi, the Usingulo (Boyd, 1952)) and Chigilly simultaneously at Coweta in August of 1725, and on his return to that town in the following month, expected to be met there by Cherokeys-Leech-che, whom he had summoned to an interview (Mereness, 1916 b, pp. 185, 193). Nevertheless he was one of the most outstanding Indian figures of the early 18th century.

FORT SCOTT

This military outpost was established to restrain hostile Red Stick Creek Indians who had taken refuge southeast of the Flint River and across the international boundary in Spanish East Florida.

Location.—Fort Scott was located on the first high bluff or high ground encountered above the confluence, on the west or right-hand bank of the Flint River. It was situated in the southwest corner of fractional land lot 224 of District 21 of the original Early County, Georgia, of which the present Decatur County, Georgia, is a subdivision. According to its plat in survey book EEE, this lot was surveyed on February 18, 1820, when we have reason to believe that a garrison still occupied this army post (pl. 50, *c*, *d*).

Perhaps 250 yards above the site of the later mentioned monument, is a large spring on the river bank, called "Lime Spring" on the 1820 plat, but which is currently known locally as the "Lish" (Elisha ?) White Spring.

Identification.—Since the fort is mentioned in the field notes of the survey of District 21, as well as being shown on the plat of lot 224 and of lot 227, identification must be regarded as incontestable.

The State of Georgia initiated the survey of land District 21 in the Fort Jackson treaty cession late in 1819. The field notes of the survey of the 12th parallel of this district, which was run from west to east and constitutes the dividing line between lots 224 and 227, give the following significant data, referred to a pine post at the intersection of that parallel and the meridian where lots 223, 228, 224, and 227 corner. Meridians were located at 50 chain intervals, and with the parallels, bounded the square lots, each full lot containing 250 acres. Thus starting from the pine post: "2 (chains) Fort Scott; 2 chains 75 links pine post; 4 chains 50 links 'Hospital House'; 6 chains 50 links pine post on river." The river constituted the remainder of the southern boundary of the lot, which as a consequence, is fractional. As platted in survey book EEE, an outline of Fort Scott is indicated north of the parallel, which is apparently a free-band insert rather than a drawing to scale. This delineates a due north-south line as the west wall, which as noted above, was intersected by the 12th parallel at a point 2 chains east of the before-mentioned corner. If this sketch approximates the scale of the plat (20 chains to the inch), the west side of the fort would extend due north from the parallel 7 chains, and from the termination of this line, the wall was deflected northeast approximately 10 chains to the north angle of the fort, from which point, the outline extends southeast approximately 11 chains to the riverbank. The north angle at the intersection of the northwest and northeast sides, approximates 90 degrees. Counting the riverbank as a side, this irregular polygon enclosed an area of from 11 to 12 acres of land. No buildings are represented on the plat of this lot as lying within the enclosure. Roads from the north and from the northeast are represented as terminating at about the center of the northeast side; and a path from the northwest terminated a little to the south of the middle of the northwest side. This plat does not complete the enclosure to the riverbank. A large pond, perhaps 3 acres in extent, is shown as situated immediately outside of the northwest wall, a highly significant feature in relation to the unhealthfulness of the post. As mentioned, lots 224 and 227 are separated by parallel 12, the latter being directly south of the southwest corner of the former. The Flint River makes a sharp bend to the southward at the eastern termination of the parallel, as a consequence of which, the original lot 227 was a small triangle of 7¾ acres. Although the parallel or north line of this lot intersects the "Hospital House," it is uncertain whether the plat indicates the termination of the west face of the fort. Parallel lines inserted free-hand on the plat of lot 227 being about where the west side terminates on the plat of lot 224, and, extending southeastwardly to the riverbank, may have this significance. It appears unlikely that these represent a road, as on the plat of lot 224, roads are represented by broken lines, and no road is shown on the corresponding part of lot 224 of which these could be an extension.

Assuming that the free-hand insertions on the plats are actually an indication of the fort perimeter, it would appear that the polygon enclosed may have been laid out in the form of an incomplete but regular hexagon, oriented so that one pair of opposite angles lay in a north-south axis. It was rendered incomplete by the riverbank, which interrupted the outline at the northeast corner to intersect the opposite wall about the middle of the southwest face.

In the land lottery of 1820, lot 224 was drawn by John Griffin (farmer), of Twiggs County, who paid the grant fee on December 5, 1820, and received the grant on the same day.

A topographical problem is posed by a comparison of the field notes of the 1819 survey of the line dividing lots 224 and 227, with the same line as plotted on the 1949 aerial mosaic, which scales out at approximately 857 feet. The data cited in the previous paragraph are capable of two interpretations. Superficially it appears that each interval given marks distance of the location recorded from the starting point where the lots quarter. Thus the last value given, 6 chains 50 links or 429 feet to pine post on the river bank, might be taken as the south line of lot 224. On the other hand, should the length actually be the summation of the intervals recorded, the line from the corner post to the river bank would have a length of 15 chains 75 links, the equivalent of 1,039.5 feet. The former is less than the distance scaled on the aerial mosaic, the latter greater. Taking into consideration the rocky character of the river channel, it is concluded that the second interpretation of the field note intervals is correct, and that erosion of the river bank has not demolished the fort site. Hence it appears unlikely, in contradiction to the opinion of some old residents of the vicinity, that the fort site has largely disappeared.

Condition.—Obliterated, and the exact line of the palisade is unknown. During its occupation as a military post, the site was public land owned by the State of Georgia. In subsequent years until acquired by the land acquisition division of the United States Engineers, the site has been in private ownership. It is asserted that the general area of the bluff top was under cultivation as late as 50 years ago, but the fields were long abandoned, and had developed a dense second growth of pine, hardwood, and underbrush, through which passage was difficult. Furthermore, the site is remote from present through routes of travel, and access to the monument by land required a guide. As a consequence the site was rarely visited.

In 1883 the Quartermaster Department of the United States Army erected a gun monument either on or closely adjacent to the site. Until recently this occupied a position about 40 feet back from the edge of the bluff. Excepting the inscription, it was identical in all respects to those placed at Camp Recovery and Fort Hughes (q. v.). This monument was removed in the winter of 1952–53 and reerected in Chason Park, Bainbridge (pl. 51, *a*).

The base bears the following incised inscription:

> Erected by the United States on the site of Fort Scott in memory of the officers and soldiers of the 4th and 7th Regiments U. S. Infantry who died during the Indian campaigns 1817 to 1821 and are buried near the fort.

The location of the burials is unknown.

Since removal to Bainbridge, a bronze plaque bearing the following legend has been affixed to the side of the base:

> This monument was originally located on land lot number 224 in the 21st district of Decatur County, Georgia, 16 miles southwest of Bainbridge and on the site of Fort Scott built in 1816 and abandoned in 1821.
>
> It was removed to its present location on account of the Fort Scott site being inundated by the Jim Woodruff Reservoir.

In June 1953 the site was completely cleared of trees and underbrush by reservoir clearance crews (pl. 52, *a*).

Authentication.—Aboriginal occupation of the site is indicated by the presence of sherds of scratched or brushed pottery.

Oxidized lead balls of two sizes (probably representative of musket balls and buckshot), military coat buttons, a variety of corroded nails and miscellaneous iron work, and sherds of decorated and glazed china ware, have been found on the site by Frank S. Jones and Roland Bowers of Bainbridge. In part at least, these represent the period of military occupancy.

Especial interest attaches to the metal coat buttons. These are of two types. The smaller are one-half inch in diameter, and present either flat disks or a convexity on the exposed surface, and are identified as trim buttons from sleeve cuffs. Of the disks, one bears the initials "US" in roman block letters, the other presents what appears to be a capital "I" in flowing script, having below the letter a horizontal oval enclosure with what appears to be a figure "1" in its interior. It is inferred that the "I" signifies Infantry. The larger buttons are three-quarters of an inch in diameter. Two of these have apparently blank faces, but on their underside, the word "London" appears on one, on the other "Treble Gilt." One bears the capital letters "US" similar to but larger than those on the sleeve button. Two bear the capital "A" in flowing script with horizontal ovals below, one of which encloses what appears to be a figure "1," the other containing the figure "2." Two further buttons have a capital "I" in flowing script, both having horizontal ovals below, in one of which may be distinguished the figure "1." The most ornate button shows a parked cannon with muzzle right, a pile of balls under the muzzle, the cannon surmounted by an eagle facing right with outspread wings, and below, in Roman letters, the word "Corps," which obviously belonged to the artillery corps, in which form that branch of the army was organized from 1814 to 1821. It is assumed that the letters "A" and "I" signify Artillery and Infantry, respectively. The only regular infantry regiments which appear to have been represented at Fort Scott were the 4th and the 7th, with which the assumed numbers "1" and "2" cannot be correlated.

Interpretation.—Since Fort Scott is the most important historic site in the Woodruff Reservoir area, the considerations which lead to its establishment, occupation, and abandonment merit adequate consideration.

It was established and occupied to restrain hostile Indians who had taken refuge in the region of the fork of the Apalachicola River. It is therefore necessary to consider briefly the Indian villages, indigenous or immigrant, which were contemporaneously located in the area. Most of these were not the primitive occupants, but were relatively recent immigrants from the Creek Nation who arrived at different periods during the course of the previous century. While the earliest Creek expansion into the area was probably determined by internal population pressure in the Lower Creek towns, the later movements were largely a response to the economic and political blandishments of British traders and agents, who maintained an irregular contact with them through ports on the gulf coast of Spanish Florida, which terminated with a large wave of beaten but unsubmissive Red Sticks at the close of the Creek War. Reaction to the earliest influences, was more particularly manifested by the Lower Creeks, but after the check administered to British intrigue by the outcome of the Creek War of 1813–14, the immigration largely consisted of refugees from the Red Stick towns of the Upper Creeks, who arrived either as individuals personally sympathetic to the crushed movement, or as bands of the adherents of the defeated leaders. A résumé of the meager available knowledge relating to the retreat of the latter to Florida, will be found in Nicholls' Outpost herein, and Boyd (1955).

An enumeration of the larger Indian settlements of the region as of 1818, the climactic year in the history of Fort Scott, was attempted by Capt. Hugh Young (1934–35, p. 82; Morse, 1822, p. 364), topographer of Jackson's army, which was submitted to the latter as a report. He did not reveal the sources of his information, although from obvious omissions it does not appear that he secured the benefit of consultation with either William Hambly or John Blount, both of whom were thoroughly informed, and were with the army. Young's statements are underlined.

Young grouped 20 Indian settlements of this area under the denomination Seminole. Of these, 1 was classified as Uchee (Yuchi), 3 as Hitchiti, and 16 as Creek.

He related that the Uchee village, undistinguished by name, was located in *Florida adjacent to Mikasuky.* It was credited with from *15–20 warriors under the leadership of Uchee Billy.*

The Hitchiti speaking towns comprised Mikasuky, Fowl Town, and Okatiokina (Okiti-yakani). Mikasuky was the most populous town in the area, *located in Florida* near the lake of that name. *One hundred and sixty warriors were attributed to it*, *and the women and children were estimated at 8 or 9 times that number. The civil chief was Kinhega* or Capachimico (Capixity Mico) and *the war chief was Coche Tustenuggee.* The then recently relocated village of Fowl Town is considered at length elsewhere. It was credited with from *30–40 warriors lead by Innematla.* Okatiokina was located on a long occupied site on the east side of the Chattahoochee River, about 4 miles above Fort Gaines. It was *credited with 65 warriors under Honeshiga.* Although Young stated they were *friendly during the* then *recent* Creek *war*, the remark of Hawkins later quoted indicates that some of these warriors acquired a Red Stick inclination from those of Mikasuky and Fowl Town, and likely later departed to join with those of the latter south of the Flint.

The Creek settlements may be grouped geographically. Southeast of the Flint were immigrant Creek occupying the villages of Attapulgas, Tallahassee, and Owacissa. The first of these was *located on Little River*, *a branch of the Ochlockonee River*, a short distance to the southeast of Fowl Town, and was credited with *25 warriors under Passakemahla.* They were regarded as *generally unfriendly.* In the course of the third raid against Fowl Town early in 1818, Arbuckle lead his force on to Attapulgas, which he found abandoned (M. A., vol. 1, p. 695). Wherever their refuge, they eluded Jackson's army. After this campaign they descended the Ochlockonee valley into Florida, where the village of Tophulga (undoubtedly an elision of Attapulgas) appeared on Rocky Comfort Creek, under the leadership of Emathlochee (Williams, 1824). By the treaty of Moultrie Creek in 1823, the Tophulga site for undisclosed reasons was surrendered to Neamathla, late of Fowl Town, and Emathlochee and his band became associated with those of Yellow Hair and Mulatto King in the middle reservation on the Apalachicola, where their settlement resumed the name of Attapulgas (S. S. Cong. Sen., Correspondence, Sen. Doc. 512; 4:683). Being somewhat remote, the other two towns will not be considered, although also regarded as unfriendly.

Young did not disclose the presence of any towns along the Flint River below the junction of Muckalee Creek with that stream. In this vicinity, which was also the original site of Fowl Town, he enumerated four Creek villages. One, Chehaw, was situated *in the fork of the before-mentioned confluence.* The remaining three, Falemme's Town (a dependency of Chehaw), Talle-whe-ana (Hotalgihuyana), and Oakmulge (Okmulgee), were on the east side of Flint not far from Chehaw. Young credited Chehaw with *from 70–80 warriors under Old Howard or Cochamico*, and *rated them as friendly but unreliable.* They were invited to furnish a force of auxiliaries to Jackson's army and responded with enthusiasm. It is not known whether Young's comment expressed a pre- or post-campaign opinion. The Tallewheanas were considered *able to raise 24 warriors under chief Spokock Tustennuggee*, and the Oakmulges *with 25 warriors under chief Hotlepoemico, a brother of Hoponne*, or Opony. Both were *regarded as inveterately hostile.*

The uppermost village on the Chattahoochee River which Young credited to the Seminoles was Ufallah (Eufaula), located on the east bank about *12 miles above Fort Gaines.* Its occupation of this site was of long standing, and its classification as Seminole probably implies belief that it was derived from the town of the same name among the Upper Creeks. It was rated as capable of raising *from 70 to 80 warriors under chief Tallapahija.* They were *regarded as friendly.* On descending the Chattahoochee the next village encountered was Etohussewakkes. This is known to us only through Young. While stated to have been 3 miles from Fort Gaines, in Young (1934–35) this was said to be *below* the fort, while in Morse (1882, p. 364) purportedly quoting from Young, it is located this distance *above* the fort. Young credited it with only *10–15 warriors under chief Micotocoxa.* Since he said they *were inveterately hostile*, it is difficult to believe that this band could have continued to ocupy a position so close to Fort Gaines as late as 1818. It is easier to believe that this site was abandoned soon after the construction of Fort Gaines. As later mentioned, it is suspected that on removal this band usurped and displaced the Ekanachatte band from their site below Irvin's Mill Creek. The greater portion of the Emusses (Yamassees) in undisclosed numbers, were living on the west bank of the river about 8 miles above the Florida line, under the general leadership of Oshahija. Although this chief was regarded as of *good character*, the *majority of the band were considered dishonest and troublesome. A detachment of these rated at from 15 to 20 warriors under Emussemico and Ohulluckhija, was settled on the west side of the fork. To them was attributed the massacre of Scott's party.*

Two miles below the principal Emussee village was *Wekiva, credited with from 25 to 30 warriors under Ben Perryman.* Since *Ben was regarded as honest and friendly*, it is likely, in the absence of more specific information, that his band shared in this reputation. Four miles below Wekiva on the west bank was Cheskitalowa (Chiskatalofa), which was also *2 miles above the Florida line.* This village was *credited with 65 warriors under the halfbreed chief Yaholamico*, and are *regarded as honest and friendly.* The village of Red Ground (Ekanachatte) was also described as *situated 2 miles above the line*, a position which conceivably would place it either adjacent to, or intermingled with, Cheskitalowa. The *number of warriors attributed to Red Ground was small, 10 or 15, and the chief Conchallamico (Conchattimico=Econchatimico)*, although regarded as *a man of talents* was described as *inveterately hostile to the whites.* It is likely that the assumed intermingling with or proximity to Cheskitalowa, is corroborative of the inferred forced displacement of the Red Ground from their original location, which is sufficiently discussed under Ekanachatte. The last band Young enumerates on the west side of the Chattahoochee was that of the Telmochesses (Telmocresses), who were *settled 15 miles above the fork, and credited with from 10 to 15 warriors under chief William Perryman.* They were *believed to be, as a matter of policy, well disposed to the whites.*

Apparently by 1818 the Indian settlements on the Apalachicola River were all situated on the west bank, as none were encountered by Jackson's army in its advance down the east bank. Young enumerated three villages situated on the west bank of the river, namely Tamatle, Ocheese, and Ehawhohales. The first two appear to have been known on the river for the previous half century.

Tamatle (Tomatly) was situated about 4 miles below the fork. Young credited it *with 25 warriors, under the joint leadership of chiefs Yellow Hair* (the elder) *and the "Black King,"* who is probably the individual better known as Mulatto King or Vacapuchasse. When first mentioned in 1767, the town was described as situated on the east bank of the river. Actually the followers of each chief lived in separate but adjacent villages, that of Yellow Hair being distinguished as Choconicla. Old Yellow Hair had been recognized as head chief of the lower villages, and although residing in Spanish territory, surprisingly had been commissioned by Colonel Arbuckle of Fort Scott to maintain a check on traffic passing his town. This duty was zealously discharged, until his patrol unfortunately fired on a canoe of Indians later found to be friendly, who refused to come ashore when hailed. As a consequence, Arbuckle broke Yellow Hair from his position as head chief, and from the chieftancy of Choconicla as well, a disgrace which he did not long survive. In his place Arbuckle elevated John Blount to be head chief, and despite the known hostility of Mulatto King, made him chief of Choconicla (U. S. Cong. Sen., Correspondence, Sen. Doc. 512, 23d C–1; 4: 695). As previously mentioned, the Indians of Attapulgas finally settled in or near this town.

Seven miles below Tamatle was the village of *Ocheese near the bluff of the same name. Its chief*, according to Young, *was the halfbreed* John or *Jack Mealy* (otherwise Yahalla Emathla), *who commanded 25 retainers. These Indians were said to have lost many cattle during the Creek war.* In 1817, William Hambly, an interpreter who had long been identified with the Panton and Forbes' interests in this area, was living on a plantation he was developing on the east side of the river opposite to Spanish Bluffs. It was likely from here that he warned Lieutenant Scott of the Indian ambuscade he would encounter higher up the river. Soon after (December 13) Hambly (and Doyle) were captured at this plantation by a party lead by Chenubby of Fowl Town, and taken to Ocheese where they were detained during the attack on Muhlenburg's command, and subsequently brought to Mikasuky. The dispatch which informed Arbuckle of Muhlenburg's difficulty also brought the report that a friendly party under William Perryman who had gone down to protect Doyle and Hambly from the hostiles, had been beaten, Perryman killed, and the survivors forced to join the hostiles (M. A., vol. 1, pp. 690, 715, 716). By 1821 Cochrane (Cothrin) or Coha-thlock-co had succeeded to the chieftancy.

Young described the village of Ehawhohales (Ehawhokales) as *situated 12 miles below Ocheese*, and related that its *chief Apiokhija was a good but weak old man who commanded from 15 to 20 followers.* Young is the only writer who refers to this town. In view of the circumstances that several bands are known to have been in this area about this time, that both Hambly and Blount had lived in the vicinity and must have been thoroughly informed of its residents, it is concluded that these men were not Young's informants. It would appear that this general area on the west bank was adjacent to the present Blountstown, and, although devoid of the conspicuous elevations of the east bank, nevertheless was called Spanish Bluffs. Living here in more or less amiable proximity were the bands of "Colonel" John Blount or Lafarka, Osiah Hadjo or Davey Elliot, and Tuski Hadjo. Blount's village was known as Iola or Yawalla, where Osiah Hadjo also lived, while 2 miles below was Spanawalka frequented by Cochrane and also by Osiah Hadjo. Not all of the refugees in the villages south of the line were Red Sticks. Such an exception was John Blount, a former resident of Tuckbatchee, who came to the region of the fork fleeing from Red Stick vengeance, where he was established by 1816, when he aided in the operations against the Negro fort. He subsequently suffered loss of family and property at the hands of the Red Sticks, and alone escaped to Fort Scott, where he aided the

United States Army and served as Jackson's guide in the 1818 campaign. Jackson spoke highly of his services (M. A., vol. 1, p. 707).

It should be further noted that Young's list omits consideration of the settlements of the large refugee bands, such as those which accompanied Francis or Hillis Hadjo, Hossa Yaholo, and Peter McQueen or Talmuches Hadjo.

American efforts to dislodge the British force from the post established in Spanish territory on the Apalachicola River during the War of 1812, began shortly after its presence became known. In September 1814, when the entire regular and militia force in the south was occupied to the westward, Col. Benjamin Hawkins, the Creek Agent, succeeded in dispatching a large party of loyal Creeks, under the half-breed chief, then "Major" McIntosh, to its attack. The project failed for reasons now unknown, and the mystery is heightened by our ignorance of whether this force even reached its destination. Another similar party lead by Colonel Hawkins in person, actually reached the vicinity of Burges' Town in February 1815, but was checked by the presence of a large force in the outpost near the confluence. On receipt of news of the treaty, Hawkins evidently assumed that early evacuation of both posts was assured, and withdrew. Colonel Nicolls' reluctance to evacuate both the outpost and fort became a matter of concern to the American authorities. In May 1815, Gen. E. P. Gaines expressed to the Secretary of War his opinion that the forces at his disposal were adequate for a decisive stroke at the Apalachicola depot should the Government sanction such action. It appears that when news of Nicolls' belated departure was received, it was inferred that no further annoyance would be experienced from that quarter. Within a few months, however, Colonel Hawkins reported that it continued to be occupied by several hundred well armed and organized Negroes and hostile Indians, who were undertaking to induce slaves from the Georgia frontier to join them. As a consequence of this information, Secretary of War Crawford, on March 15, 1816, instructed General Jackson to call the existence of this establishment to the attention of the Spanish Governor at Pensacola, and inquire what he intended to do about the situation. On April 23 Jackson promptly sent the desired inquiry to Pensacola by an aid, who did not reach that place until May 24. Meanwhile reports on the Negro Fort, communicated to Jackson by Gaines, indicated that the situation caused considerable anxiety to the latter, although not leading to any positive action on his part. In replying to Gaines under date of April 8, Jackson assured him with some asperity that he possessed ample discretionary powers to deal with the situation, which he hoped would be exercised. Writing to the Secretary of War on April 24, Jackson expressed the hope that Gaines had already dealt with the Negro Fort. While the reasons for Gaines' procrastination are unknown, one may suspect that he desired to avoid the complications certain to ensue were he to cross the frontier without specific orders. The reply of the Spanish Governor did not reach Jackson until June 15. This, while giving a rather full account of the origin of the fort, stated that the governor could do nothing in the matter until instructions (which had been sought) were received from the Captain General of Cuba. He closed his letter with an expression of the hope that nothing prejudicial to Spanish sovereignty would be done by the United States before these instructions were received. Jackson immediately wrote to the Secretary of War proposing employment of the 4th and 7th Infantry and a small naval force for the destruction of the Negro Fort (H. Docs. 119, 122, 15 C.–2; 6, 11; H. Doc. 65, 16 C.–1; 54, 55).

Meanwhile General Gaines was approaching the problem with a deliberation foreign to Jackson's character. Plans were under way for a survey of the line of the land cession in south Georgia exacted at Fort Jackson, and a battalion of the 4th Infantry under Lieut. Col. D. L. Clinch was ordered to proceed from Charleston to Fort Mitchell, where they arrived about mid-March, to be available for the protection of the surveyors. About this time Gaines suggested to Jackson the desirability of establishing a post on the Chattahoochie near the national boundary for the protection of the surveyors and the restraint of the Seminoles, thus endorsing a suggestion made in the previous year by Colonel Hawkins. On Gaines' return to Fort Mitchell on March 21, he found Clinch's force engaged in the fabrication of seven flat-bottomed boats, several of which would carry one hundred men and their baggage. Before their departure on March 31, accompanied by Gaines, it was decided the detachment would drop down the river to the vicinity of the mouth of Summochickoba(=Cemochechobee) Creek, near the intersection of the north line of the cession with the river, and establish a post. On April 2 the troops arrived at this point and selected a position on the crest of a bluff on the left bank of the river, 1 mile below the cession line, where they immediately began construction of a small stockade with two blockhouses at diagnonal corners for the accommodation of one company. To this work was given the name of the General. Gaines did not tarry here, but left on April 7 for Camp Montgomery, after having assigned a detachment to escort the surveyors.

Shortly after May 1 a party of mounted hostiles lurking about the post captured two soldiers in its vicinity and made off with them and 30 head of cattle. A scout reported on May 5 that this party escaped across the Flint River via the crossing at Burges' "Old Place." Tension was increased by the hasty arrival of Little Prince and Hambly on May 8 from the towns below, to which allusion is made elsewhere. Although their mission had a peaceful intent in American interest, they had nevertheless stopped long enough on April 26 during their descent, for Hambly to indite a formal protest from Little Prince over the erection of the post. These hostile manifestations led Clinch to declare to Gaines his intention, as soon as the state of his ammunition and provisions permitted, to take part of his command and move down the riverbank to the fork, destroying every hostile town encountered. He further proposed to then select a strong position on the Flint River, fortify his camp, and move up that river to Burges' "Old Place" destroying all towns encountered on the way. On May 23 Gaines approved the project, and insisted that the post near the junction of the rivers be established speedily. However, he called Clinch's attention to the inadequacy of his force to make the proposed march by land, and suggested instead that, leaving a company at Fort Gaines, he should have his force make the descent by boats, and that until the new post was established the whole of the force should remain near the boats. Gaines also informed Clinch of the arrangements he had made to have supplies furnished these posts by water from New Orleans, and that he should be prepared, as soon as he received word that the supply vessels were at the mouth of the Apalachicola River, to send down a boat with a detail of 50 men to assist in their ascent. Furthermore, should opposition be met with at the Negro Fort, arrangements were to immediately be made for its destruction. To meet this contingency, certain pieces of artillery were to be sent in another vessel. At the same time, Gaines also wrote to Commodore Patterson, commander of the New Orleans Naval Station, requesting the detail of one or two small gunboats to convoy the supply vessels up the river, prepared to destroy the Negro Fort should it offer opposition. Clinch was also instructed to cooperate with the naval party. The next day Gaines also wrote Governor Mitchell of Georgia, requesting that he cause to assemble at Fort Hawkins on June 15, one regiment of infantry and one battalion of mounted riflemen of the militia, for mustering into 3 months' service (U. S. Cong., H. Doc. 122, 15 C.–2; 24). If actually assembled, it does not appear these men saw service.

The extent to which Clinch accomplished his projected campaign is now unknown. However, it was realized to the extent that by some time early in June 1816 his detachment of the 4th infantry was encamped on the west bank of the Flint at the site under our consideration. To this site was given the name of Camp or Cantonment Crawford, honoring the Secretary of War.

Thus, as a consequence of Jackson's initiative, events were developing rapidly to a climax long before his letter of June 15, expressing to the Secretary of War his awaiting of orders to destroy the Negro Fort, was written.

The two provision vessels with their naval escort arrived off the mouth of the Apalachicola on July 10. Here their commander, Sailing Master Loomis, found dispatches from Clinch awaiting him, by the hand of Chief Lafarka or John Blount, in which he was requested to tarry at that point until Clinch could effect a junction with him. Loomis' reply via Lafarka was received by Clinch on July 15, and on the 17th Clinch, leaving Major Cutler in command of the post, left Camp Crawford with 116 chosen men in boats and began descent of the river. His force was divided into two companies under Major Muhlenburg and Captain Taylor respectively. On the evening of the same day, Clinch unexpectedly and accidentally encountered a party of 150 Indians under "Major" McIntosh, who had set forth on another long-projected expedition against the Negro Fort. On the following day he encountered still another large Indian party under "Captain" Isaacs, which had the same objective. A council was held, and an agreement to act in cooperation was reached. Early on the morning of July 20 landing was effected in the vicinity of the fort. Contact with Loomis was established on July 25.

Limitation of space prevents a description of the destruction of the fort on the morning of July 27 with a terrible loss of life among its occupants, of its sturdy construction, or of the fantastic quantity of military stores it was found to contain. (For descriptions of these, consult House Doc. 119, 15 C.–2; Niles' Weekly Register, Nov. 20, 1819; Boyd (1937)).

It was concluded that it was impractical for the supply vessels to ascend the river, so on July 30 their lading was transferred to small boats, which were ordered to ascend to the post. The surviving American Negroes were also brought up. Clinch himself reached Camp Crawford on August 2.

The success of this operation in Spanish territory evidently surprised official Washington, and it is probable that an apprehension of international complications led to the issuance of a Presidential order prohibiting further attacks on Indians below the line.

Evidently deciding the site of the encampment was suitable for extended occupation, Clinch had his force begin construction of a permanent work in September.

Just when or for what reason the name of the post was changed from Camp Crawford to Fort Scott has not been disclosed, nor is the individual so honored identified. It cannot be for the later ill-fated Lieut. R. W. Scott, as the name was in use months prior to the time of his disaster. It is inferred, however, that it was named after the then Brig. Gen. Winfield T. Scott.

The only description of the fort extant is of this installation constructed by the 4th Infantry. To what extent it is applicable to the fort at the time of its second occupation is unknown. The account is contained in a report from Maj. J. M. Davis, assistant inspector general, dated April 30, 1817 (Carter, 1952). It is as follows:

Fort Scott is situated near the confluence of the *Chatahoochie* and Flint Rivers, immediately on the west bank of the latter—The Fort is nothing more than a temporary work of logs, with a small magazine. Two 24 pounders, mounted on sea coast carriages; together with some of smaller caliber—The Fourth Regiment was stationed there, and erected this work, and they had nearly completed an elegant cantonment, at the time they received an order to repair to the place they occupy at present. [*Note:* Cantonment Montpelier, Ala.]

This cantonment was built on the bank of the river, which is so high and perpendicular that it would be impossible for an enemy to approach or do any injury on that part. The men's barracks are built of squared logs, laid close together; all in one line parallel with the river, at a distance of about one hundred yards from it; they were put up in such a manner as, by closing the doors and windows, would make them secure in front from small arms; and by closing the flanks with a picket work, (which was their intention) would secure three hundred men from any body of Indians or small arms,—as long as their supplies or provisions and ammunition would hold out—The Officers Quarters was built between the line of mens barracks & the river; This place I concieve to be perfectly healthy, altho.' there were a number of men Sick at that post last Summer, which I believe was owing more to a severe campaign the Regiment had in the early part of the summer on the *Appalachicola* than to any other cause.

Adjacent to Fort Scott are a number of large elegant never failing Springs, one in particular I can describe having seen it myself—

It is about one hundred and fifty yards from the cantonment, appears to be about forty feet deep and as much as one hundred & fifty feet in circumference, the stream which flows from this Spring is eight or ten inches deep; and ten or twelve feet wide, there would be a sufficient quantity of water to turn any water works. [*Note:* 'Lish' White spring previously mentioned.] The same difficulty attends getting supplies to Fort Scott that does to Fort Gaines, as they have to come by the same route—[*Note:* in *re* Fort Gaines, Davis stated "has to be waggoned from Georgia, a distance of one hundred miles through a wilderness country, to the *Chatahoochie* river, where the Federal road crosses—thence it is taken by water to Fort Gaines."] There is now one company of Artillery ordered to occupy and put the works at Fort Scott in a state of defense— It is reported that the Seminoles and their party have burned the works and houses since the Troops left them.

This report takes us ahead of our story, so retrogression is necessary to pick up the thread of the narrative.

It was generally believed, and probably correctly so, that the dramatic destruction of the Negro Fort would so overawe the Indians in that quarter that further annoyance from them would be unlikely. This thought was expressed in a letter from the Secretary of War to General Jackson, dated September 27, 1816, in which he questioned the necessity of keeping so large a force in that quarter, confined in a defensive work where there is nothing to defend, since the militia of Georgia and Tennessee could occupy the posts in the Indian country if danger threatened. He also directed that measures be taken for the preservation of stores at evacuated posts until occupied by the militia (M. A., vol. 1, p. 764). This belief, however, did not anticipate the intrusion of another British agent among the Indians south of the line.

Allowing for slow communication through the various steps of the chain of command, it is understandable why the detachment of the 4th Infantry did not evacuate Fort Scott until December 1816. They were transferred to Camp Montpelier by a route now unknown, but presumed to have been via Forts Mitchell and Jackson. Fort Gaines itself was not evacuated.

At this time there lived along the Chattahoochee an extensive family of halfbreeds named Perryman, probably all descended from a late 18th-century trader in that area known as Theophilus Perryman. These, according to Woodward (1859, p. 107), were the Chattahoochee Indians below Fort Gaines. Two of this family, apparently brothers, George and William, appear to have been on terms of friendly intimacy with the American forces. The latter, William, was chief of Telmochesses, a village on the west side of the Chattahoochee, 15 miles above the forks.

When Clinch left Fort Scott with his detachment of the 4th Infantry, he left the buildings and supplies in charge of one of the Perrymans. Under date of February 2, 1817, Lieutenant Sands of the 4th Infantry, commanding at Fort Gaines, informed the commanding officer at Fort Hawkins, that he had just received a letter from this caretaker, delivered by his brother, which related that after the departure of the garrison, the Red Sticks came in numbers and carried off everything left with him, as well as his own property. They also burned three of the houses, and threatened, if he did not leave the place, to burn it over his head. He consequently gathered his remaining possessions, and placing his family in a canoe, went to his brother (M. A., vol. 1, p. 681). We infer that the caretaker was George.

When news of the evacuation of Fort Scott reached Gov. D. B. Mitchell of Georgia early in February 1817, he immediately wrote protesting letters to the Secretary of War and to General Gaines, pointing out that this left the Georgia frontier defenseless, near where the greater part of the restless Creeks were concentrated within the Spanish line. He also asked Gaines, in the event he was not authorized to order the 4th Infantry back to Fort Scott, to suspend their march until he, Mitchell, could hear from the War Department. In reply, Gaines stated that should he not receive authority to recall the detachment of the 4th, he would order one or two companies of artillery from Charleston to the southern part of Georgia to do duty as infantry (M. A., vol. 1, p. 681).

At about the same time the American authorities became aware of the presence of another British interloper among the Seminoles south of the line. This individual, Alexander Arbuthnot, is still a mysterious figure, as although his principals and backers remain unknown, we are aware that he was in communication at least, with the notorious figures, Colonel Nicolls and Captain Woodbine. Operating in the guise of a trader, and professing efforts to persuade the Indians to remain at peace or at the most to act only on the defensive, he nevertheless encouraged in them a belief that British aid on their behalf would be forthcoming, and undertook to act as their spokesman. His activities greatly increased the tension.

It was soon apparent that the evacuation of Fort Scott was premature, and Gaines, in compliance with his statement to Mitchell, issued an order to move Captain S. Donoho's company of artillery to Fort Scott, which they repossessed in April or May of 1817, as already mentioned in the quotation from Major Davis. Some time in July 1817, this detachment was reinforced by a light company (73 men) from the 7th Infantry under Maj. D. E. Twiggs, which, added to Donoho's, gave that post a strength of 112 men.

About this time the sutler at the fort had some transactions with Edmund Doyle, who was in charge of the trading post at Prospect Bluff maintained by John Forbes & Co. in compliance with a stipulation to the land cession given the firm by the Indians. Although it had been subjected to extreme vicissitudes, this enterprise had survived the British occupation of the bluff, and the attack on the Negro Fort. Doyle (1939–40) related that he had reached an agreement with the sutler not to pay the Indians more than 6 reals per bushel for corn, and that he had sold to the sutler $190.00 worth of sugar and coffee.

In the narrative of Tutalosi Talofa there are described certain episodes in which Major Twiggs was involved during the late summer and fall. In addition, Twiggs was required to transmit to the Indians, a rather incoherent written talk received from Gaines early in September. It was read and translated to those of Mikasuky on September 6 by interpreter Gregory. In it, Gaines reproached them for the Garrett murders in Camden County, and demanded surrender of those responsible. Some of the warriors were overheard to say that they had never heard of Indians giving up those of their tribe for punishment by whites. Kenhagee promised an early reply, which was received on September 18. In substance it admitted the murders had been done in partial retaliation for the slaying of 10 Indians, and declined to surrender the guilty. It further stated that 10 other towns concurred in the reply (M. A., vol. 1, pp. 684, 685). The expressions of British sympathy were confirmed by the returned Hillis Hadjo or Francis, which, with the encouragement afforded by promises of material aid and assistance from Arbuthnot, brought the tension in Indian affairs to a critical point, and the presence of a strong force at Fort Scott became imperative.

Accordingly with Presidential approval, Gaines ordered the first brigade, consisting of the effective strength of the 4th and 7th Regiments, under Lieut. Col. M. Arbuckle, to march across southern Alabama from their stations at Camps Montgomery and Montpelier to Fort Scott, where they arrived on November 19, 1817. They traversed a route which involved the construction of 90 miles of new road (M. A., vol. 1, p. 689). In the same letter (October 30) conveying the order, the Secretary of War advised Gaines that if this display of force be ineffective, he should not pass the line and attack those in Florida without further instruction. He was also authorized to remove the Indians from lands ceded by the treaty of Fort Jackson (M. A., vol. 1, p. 685). This reinforcement, including the company of the 7th already there, amounted to 338 men of the 4th Regiment and 502 of the 7th Regiment, who, added to Donoho's artillerymen, gave a total strength to the post of 876 men. Unless the accommodations at the fort had been previously enlarged by Donoho's men, it must have been uncomfortably crowded.

Gaines' experience with the difficulty of supplying the fort from the settled parts of Georgia, led him to dispatch for the fort three vessels laden with military stores and provisions from Camp Montgomery and Mobile, at about the time the brigade departed for Fort Scott. This flotilla was in charge of Maj. P. Muhlenburg of the 4th. Although the date of its arrival off the mouth of the Apalachicola River is not available, it must have closely approximated that of the arrival of the brigade at the fort (November 19).

It is not known whether Gaines, on reception of word from Muhlenburg of his arrival at the river mouth, or in anticipation of this, had given an order to Lieut. R. W. Scott of the 7th, to descend the river in a boat with a detachment of 40 men, and assist the major. Scott appears to have found Muhlenburg without difficulty. Thereupon, according to Gaines in a letter to the Secretary of War written on December 2, Muhlenburg, instead of retaining the whole detachment, accepted only 20 men, for whom he substituted a like number of invalids and seven wives of soldiers, with some baggage. The boat thus laden was directed to return to the fort. During his ascent to the fort, Scott dispatched a letter written from Spanish Bluff on November 28, in which he asked for aid, as he had been warned by Hambly that the Indians were assembling near the fork with hostile intentions. On November 30, when the boat was near the shore at a point a short distance below the fork, it was unexpectedly attacked, and with the exception of six men who escaped by swimming, all on board were killed or captured. Scott's note was received at the fort at about the time of the disaster. Gaines immediately fitted out two boats with covers, and sent a detachment of 40 men under Captain Clinch to their relief. They saw nothing of the Scott vessel in their descent, probably passing the site of the disaster at night. Under the circumstance, the boat passed down the river to aid Muhlenburg. The survivors must have traveled overland to reach the fort, which they appear to have reached by the date of Gaines' letter. Gaines declared his intention to send still another detachment to assist Muhlenburg, and to occupy a position near the fork with his principal force. It is not known whether he realized either of these intentions (M. A., vol. 1, pp. 687, 688).

The progress of the vessels of Muhlenburg's flotilla against the river current was mainly effected by warping, a procedure that made those engaged in the operation a clear target for Indian snipers on the banks. On December 16 he reported to Arbuckle, via the keel boat under Captain Clinch, that on the previous morning, in the vicinity of the Ocheese town, they experienced an Indian attack from both sides of the river, which obliged him to anchor the vessels in mid-river. The attack continued for several days, during which 2 of his men were killed and 13 wounded (M. A., vol. 1, p. 691). Just prior to this attack (December 13) a party of hostiles under Chenubby, a chief of Fowl Town, had captured Hambly and Doyle, and according to rumor, they had been killed. The attack on the flotilla was reported to have been led by Capachimico (=Kenhagee), chief of Mikasuky (Arbuckle, 1817). In compliance with Muhlenburg's request for aid, Arbuckle sent back the keel boat under Captain Blackstone, who reached the flotilla on December 19. Muhlenburg was disappointed that he did not receive more substantial support, and returned the boat under Lieutenant Gray, with the message that if more effective aid were not received by December 21, he would be obliged to drop down the river to the bay. This induced Arbuckle to return the boat to Muhlenburg under Major Twiggs' command, and the idea of a return to the bay appears to have been abandoned. The keel boat finally returned to the fort on December 26, and Arbuckle reported that although not much progress had been made, their position was safer, and they were expected to arrive in 10 days' time (M. A., vol. 1, pp. 690, 691, 692). This forecast was actually too optimistic, as they actually did not reach Fort Scott until January 16, 1818 (M. A., vol. 1, p. 695).

While Muhlenburg was struggling up the river before the end of November, Gaines had sent two successive detachments against Fowl Town, and established an outwork called Fort Hughes, all of which operations are adequately described elsewhere in this report.

In the meantime, certain of the Lower Creek chiefs, in particular Little Prince (=Tustunuggee Hopoi) of Broken Arrow, had been attempting to restore harmony. Mention has been made of his efforts in connection with the Negro Fort. These efforts were encouraged by D. B. Mitchell, the former governor of Georgia, who in 1817 became Creek agent after the death of Colonel Hawkins in 1816. In November 1817, Little Prince called a council at Broken Arrow to determine the attitude of the Lower Creeks toward the Seminole. They selected the headman of Osoochees, Hopoie Hadjo, as an emissary to the Seminole, to express to them the desire of the Lower Creeks that those Indians living between Fort Gaines and the Spanish line should immediately withdraw above the treaty line, and after delivering this message, proceed to Mikasuky, where he was to propose that the latter join with the Creeks for an attack on Suwanee Old Town. On December 30, 1817, Little Prince reported to Mitchell that their emissary met a similar ambassador of the Mikasukies when half way to his destination, bearing similarly pacific proposals to the Lower Creeks. The Mikasukies disclaimed any responsibility for beginning the war and declared they had been sitting in their town waiting for peaceful overtures from the whites. They disclaimed any responsibility for the Scott massacre, alleging this attack was all the work of Red Sticks from the upper towns (I. A., vol. 2, pp. 153, 161). Mitchell evidently came to the opinion that a pacific solution was possible, and appears to have conveyed this idea to the Secretary of War. On January 6, 1818, he wrote the latter relating that he had called a council of principal men of all the friendly Indians to be held at the Agency on January 11. He further stated that he had written Gaines suggesting the desirability of allowing a little time to see whether a settlement might be had through the mediation of the friendly Indians.

Gaines traveled to Fort Scott ahead of the brigade, evidently via Forts Jackson and Mitchell, and reached Fort Gaines on November 9. Here he heard a report that 2,700 Indians were gathered at Mikasuky. Although he informed Jackson from this place of his disbelief in this report, he nevertheless thought it advisable to ask the governor of Georgia to assemble an auxiliary militia force at Fort Hawkins by November 25, to consist of a regiment of infantry and a squadron of cavalry (M. A., vol. 1, p. 686). He later reported to the Secretary of War that as soon as news of his movement from the Alabama reached the Chattahoochee towns, the hostile warriors from every town pushed off down the river to join the Seminole. When the administration was informed of this call on the State of Georgia for militia support, Secretary of War Graham informed Gaines under date of December 2, that in the opinion of the President (Monroe), it would be impolitic in the present state of negotiations with Spain, to move a force at this time into the Spanish possessions for the mere purpose of chastising the Seminoles (I. A., vol. 2, p. 161).

The raids on Fowl Town thoroughly aroused all the Indians inclined to be hostile. The largest numbers (estimated at from 800 to 1,200) had assembled on the Apalachicola to impede the progress of the supply vessels. Small parties lurked about Fort Scott. Writing from the fort on December 2, Gaines stated that the Indians at this moment were firing at his camp from the opposite side of the river. Although the fort was closely guarded, incautious individuals nevertheless would stray beyond the picket lines. On February 9, 1818 (Arbuckle, 1818), two such reckless youths were slain, and although pursuit was carried for several miles, the slayers escaped. The reason why Arbuckle (1817), then in command, did not take more active measures for the relief of Muhlenburg, is revealed in a letter to Jackson of December 19, in which, after reporting the inaction of his forces since Gaines' departure, he stated further that

> no movement of the troops could be made against the enemy . . . without hazarding too much, as he has concentrated his whole force on the Apalachicola river . . . . This force . . . is more than twice as great as any I could march against it and is well equipped for war.

He reiterated this opinion in a letter of December 21 to Gaines, in which he stated that

> were I to march with all the force at the fort with the intention of removing the enemy from the river, I am confident I should not succeed and at least sustain heavy loss. [M. A., vol. 1, p. 691.]

The recall of Captain McIntosh's detachment from Fort Hughes was occasioned by the necessity to replace men sent to augment Muhlenburg's command, as in the letter to Jackson cited, he stated that he had

> collected the whole of the regular force in this quarter (except a few men at Fort Gaines) to this post, which I have made sufficiently strong to be defended by a few men, and for the security of the vessels shall endeavour to claim the attention of the enemy without risquing too much.

Despite this statement relative to Fort Gaines, Arbuckle finally appears to have withdrawn even this detachment, a movement about which we have not encountered any official notice. This is revealed by Woodward (1859, p. 156), who related that about January 14, one Keith made his way to Fort Early from that place, to report that a number of settlers were congregated at the fort without protection. Acting on orders apparently from Gaines, Maj. T. S. Woodward, with a volunteer militia force of 22 men, made a forced march to Fort Gaines, which they reached the night of the 16th. Thinking the fort might be in possession of the Indians, it was cautiously approached, when to their relief the settlers were found to be the only occupants. Woodward and his party were admitted, and he proceeded to place the post in a defensive condition. Within a few days a detachment of regulars under Majors Twiggs and Muhlenburg arrived to reoccupy it, and Woodward returned his men to Fort Hawkins where they were discharged.

Since a provision shortage appears to have been chronic at Fort Scott, it is desirable to examine this situation. Since the elimination of the Negro Fort it was considered preferable to have this post supplied from gulf ports rather than from Georgia. At the time Donoho's detachment reoccupied that post, Gaines ordered that it be supplied with 30,000 rations, which were delivered by the contractor in July, a generous excess actually being delivered. This was confirmed by Doyle (1939–40), who in August wrote from Forbes & Co.'s store at Prospect Bluff, that 125,000 rations ordered by Gaines, were partly at the bluff and partly on their way to Forts Scott and Gaines. When Twiggs' detachment was sent from Camp Montgomery, he convoyed an additional 30,000 supplied by the contractor. Gaines further ordered 80,000 rations for Fort Scott in July, but later countermanded the order. With the transfer of the 4th and 7th Regiments, the contractor claimed he intended to dispatch further vessels, but alleged that he could not secure a convoy. It would appear that the stores on the vessels of Muhlenburg's flotilla, which were supposed to include 30,000 rations, came from Government stocks rather than directly from the hands of the contractor. The vexatious delays incident to Muhlenburg's ascent of the river began to cause apprehension of a provision shortage at Fort Scott. The circumstance that when Blackstone descended to the flotilla on December 19, he carried 15 days' rations from Fort Scott for Muhlenburg's force of 160 men (Arbuckle, 1817), suggests that provisions actually comprised little if any of the lading of his vessels. The contractor, fearing a provision shortage might develop, had sent two vessels with from 60–70,000 rations to the bay in early December, where they arrived about 2 weeks later. Here they remained about 2 weeks, expecting word or aid from the fort which was not forthcoming. At this time, however, the hostile Indians had made the river virtually impassable. The vessels returned about the first of March, and were likely the source from which Jackson's supplies were replenished. When the shortage began to become acute in December, Arbuckle sent Captain Birch with a detachment of 120 men to Fort Gaines to secure beef. Although Birch reported that he had contracted for the delivery of 15,000 rations of meat in 20 days, it is doubtful that the contract was fulfilled, or that any significant quantities of provisions were secured from the vicinity of Fort Gaines. The negligence of provision contractors was blamed for shortages experienced at Fort Hawkins, Hartford, and Fort Early, but the deficiencies experienced at Fort Scott do not appear to have arisen from this cause.

Another supply vessel arrived in the bay on January 18, which, however, did not bring any provisions. It does not appear that adequate provisions were ever actually secured from any source, so that by late February, Arbuckle, to the consternation of his superiors, declared his intention to abandon Fort Scott unless relief was soon received.

Leaving Lieut. Col. Arbuckle in command at Fort Scott, General Gaines took his departure from that post on December 5 for Fort Hawkins, which he reached on December 13. His purpose was to as-certain whether the requested militia had been mobilized. The appearance of these troops, under the command of Brigadier General Glasscock, made a favorable impression on him when received on the 13th, but he became apprehensive that failure of the contractor's agent to provide them with the necessary rations would, from their short term of service, prevent them from effecting a junction with the force at Fort Scott.

The Secretary of War, perhaps influenced by Mitchell's belief in the pacific intentions of the Indians and not yet apprised of events occurring since November 30, sent Gaines orders dated November 12, which directed him to proceed to the St. Marys and effect the occupation of Amelia Island, Fla., with United States troops. These were received on his arrival at Fort Hawkins. His reaction to this diversion of his activity was stated in his reply to the Secretary on December 13, in which he expressed a feeling of disappointment and mortification at being obliged to suspend his activities in the Southwest, and requested that he be allowed to return (M. A., vol. 1 p. 689). Gaines left for Point Petre on December 17. The occupation of Amelia Island and the dislodgement of the privateers was effected expeditiously and peaceably. Evidently Gaines was favorably impressed by the operations of Maj. James Bankhead, who had previously been given the assignment, as he does not appear to have superseded Bankhead in the direction of the operations, and left Fernandina on his return to Fort Hawkins on December 29. Meanwhile, under date of December 26, Secretary of War Calhoun wrote a mollifying letter to Gaines, in which he was informed of orders issued on that date for General Andrew Jackson to assume command, and gave Gaines the alternative of either resuming command at Fort Scott until Jackson's arrival, or utilizing part of the force at Amelia Island to penetrate through Florida and cooperate with Jackson in an attack on the Seminole (M. A., vol. 1, p. 689).

When Jackson learned of Gaines' departure from Fort Scott, and that the ranking officer of the Georgia militia was a brigadier, and on the supposition that the Georgia forces would promptly proceed to Fort Scott, thus placing Arbuckle's infantry under command of the militia general, he advised the Secretary of War on January 20, that he had instructed the general (i. e. Glasscock) by no means to precipitate himself into a general engagement with the Seminole and, except for the relief of Muhlenburg, to remain on the defensive (M. A., vol. 1, p. 696).

When the War Department was informed of the first affair at Fowl Town, Acting Secretary of War Graham wrote Gaines on December 9, 1817, that should the Indians assemble in force on the Spanish side of the line and persevere in committing hostilities within the limits of the United States, he should, in that event, exercise a sound discretion as to the propriety of crossing the line for the purpose of attacking them and breaking up their town. One week later, Secretary Calhoun communicated the more explicit information that it was then the wish of the President that should the Seminole still refuse to make reparation, Gaines was at liberty to march across the Florida line and attack them within its limits, unless they sheltered themselves under a Spanish post, in which event, the department should be notified (I. A., vol. 2, pp. 161, 162).

Although Gaines did not as yet appear to regard the subsistence problem at Fort Scott as too grave, he nevertheless began to give consideration to the supply of that post from points above on the Flint River. He reported from Hartford on January 9, 1818, that since supplies were short, the roads bad and made worse by heavy weather, and the time for the militiamen due to expire in the following month, he set General Glasscock's force to construct a depot on the east side of the Flint River not far from the Chehaw Town, 60 miles above Fort Scott, which was given the name of Fort Early. Here supplies from Hartford and Fort Hawkins were to be deposited, while awaiting the arrival of boats to be constructed at the Agency above (M. A., vol. 1, p. 690). Glasscock's encampment, while his force was engaged in this activity, was known as Camp Cumming. This seems to have been on or near the site of an uncompleted picket work begun by General Blackshear in 1815, about 4 miles south from where Blackshear had thrown up a temporary earthwork somewhat earlier.

Convinced that the term of service of Glasscock's force would expire before they could reach Fort Scott, Gaines further reported to the department on the above mentioned date, that he had requested Governor Rabun of Georgia to call up at Hartford, by February 1, a fresh militia force to consist of four battalions of infantry and four companies of riflemen.

Jackson's orders to proceed to Fort Scott and assume command of the forces found there, reached him at Nashville on January 11, 1818. These orders also authorized him to concentrate all of the nearby available force of his division in that quarter, and should he deem their numbers insufficient, he was further authorized to call on the executives of adjacent states for an additional militia force (M. A., vol. 1, p. 690).

In acknowledging these orders on January 12, Jackson stated that since the greater part of Gaines' force consisted of militia mustered for a 3-month term, the expiration of which would occur about the time of his arrival, he deemed it prudent to secure a thousand men from West Tennessee. On January 20 he further informed the Secretary of War that on the previous day the officers who had commanded the Tennessee mounted volunteers in the Creek War had met in Nashville and agreed to raise two mounted regiments, which were to rendezvous in Fayetteville on February 1, and be mustered in for 6 months' service. These were to march to Fort Scott via Forts Jackson, Mitchell, and Gaines, under command of Colonel A. P. Hayne (M. A., vol. 1, pp. 690, 744). Arrangements were made to have supplies from Fort Hawkins intercept them en route, but these failed to materialize, obliging them to cross into Georgia above Fort Gaines with consequent delay, which prevented them from effecting junction with Jackson at Fort Scott. They only caught up with the army some days after it had passed into Florida.

General Jackson himself left Nashville on January 22, 1818, escorted by two companies of Kentucky militia as a "life guard." Gaines, who had not yet left for Fort Scott, learning on January 23 that a letter from the War Department addressed to Jackson was at Fort Hawkins, decided to defer his return until Jackson's arrival, and remained at Hartford (M. A., vol. 1, p. 692). Jackson arrived at Fort Hawkins on February 9, to be confronted by a disorganized situation. As anticipated, the first contingent of the Georgia militia had disbanded, and through failure of the subsistence contractors to keep their engagements, a general shortage of provisions prevailed. Reports indicated the situation was particularly grave at Fort Scott. Jackson pushed on to Hartford, where Gaines met him on February 12. On the 14th the encouraging news that the second contingent of Georgia militia was converging on Hartford was received from the Governor, and a drove of 1,100 hogs was purchased.

The Georgia militia, 1,100 strong under General Glasscock, departed from Hartford on February 19 and reached Fort Early on the 26th, their progress much impeded by bad roads and swollen streams, which necessitated abandonment of the wagons and utilization of the horses as pack animals. Except for the swine, they were destitute of provisions on arrival at Fort Early (M. A., vol. 1, p. 698).

General Jackson had requested the War Department to supply him with all the maps and other topographical information relating to Florida which it possessed. Their reply, indicating the complete lack of such information explains why Captain Hugh Young of the Topographical Engineers, kept such a detailed record of the itinerary of the army (Young, 1934–35).

In the previous July, Gaines had given consideration to the recruitment of an auxiliary force of five or six hundred friendly Creek Indians, and a preliminary conference indicated they would be forthcoming when required. In January 1818, Col. David Brearly of the 7th Infantry, on detached duty, attended at Fort Mitchell for the purpose of enrolling those who applied for service with the army. The Indians responded with enthusiasm, and probably before Brearly realized how deeply he was involved, 1500 were recruited and organized into a regiment under "Colonel" McIntosh. McIntosh divided this force, and with the party under his immediate command, descended on the west bank of the Chattahoochee, with results described elsewhere. The other party, under "Major" Lovett, descended on the east bank, and joined the army before its arrival at Fort Scott. The heavy consumption of supplies by this large auxiliary force aroused Jackson's ire, and Brearly was later court-martialed, but was acquitted when it was brought out that he acted on Gaines' order.

On February 20 near Hartford, Gaines received the alarming news that because of provision scarcity, Arbuckle declared his intention to abandon Fort Scott. With the sanction of General Jackson, Gaines sent Arbuckle by an Indian runner peremptory orders directing him to remain at Fort Scott, or if he had left with his command, to immediately reoccupy the post. To add force to his order, Gaines decided to immediately return to Fort Scott and resume command in person. He promptly departed for Fort Early, where he expected to take passage on one of the supply boats then due from the Agency. Disappointed in this, he set off down the Flint on the afternoon of February 22 in a small boat manned by 12 men, optimistically expecting, by traveling day and night, to reach Fort Scott by the night of February 23. On the night of February 23 disaster overtook the party. The boat struck a rock and foundered with the baggage and eight barrels of meat, and two of the party, including Major Wright, were drowned.

Gaines, clad only in shirt and pantaloons, as well as four soldiers, managed to reach the west bank of the river, apparently at separate points, their presence unknown to each other. Major Nicks, three soldiers, and the General's servant, who delayed leaving the wreck, similarly managed to reach the east bank. Woodward (1859, p. 156) stated that Indian Bill, an interpreter, saved Gaines' life when the boat was wrecked. It is interesting to speculate whether he was the same person as Indian Willy who befriended Ellicott in 1799, and likely was the William Perryman mentioned elsewhere. Woodward does not inform us whether Indian Bill providentially arrived on the scene, or may have been a supernumerary on the boat. The meager details of this episode do not disclose how the news of Gaines' plight was brought to Fort Scott. Since it seems unlikely that the General had encountered one of his fellow castaways whom he dispatched to the fort with the news of the disaster, it appears more probable that Indian Bill bore the tidings. The messenger, whoever he may have been, apparently reached the fort in good time, and a detachment of soldiers and friendly Indians under Captain Allison was sent out to search for the General. Gaines was not found at the spot where he had promised to remain, but in his place was a penciled note stating his intention to make his way to Fort Gaines, probably with the thought that Arbuckle had withdrawn his force to that post. Allison found where the general had crossed the *Chiccasahatchy* (Chickasawhatchee) Creek 15 to 20 miles above its mouth. Allison divided his force, sending a party under Captain Bee to search in the direction of Fort Gaines, which Bee reached on March 1, after an unsuccessful search. Nicks with his group of survivors passed down the east side of the river and uneventfully reached Fort Scott on February 28. He reported observing another survivor marooned on an island 10 miles below the place of disaster. We are uninformed whether rescue of this man was effected, although Allison received orders to attempt it. Allison's force discovered two other survivors above the creek. Gaines, for reasons unknown, gave up the idea of making for Fort Gaines and managed to rejoin General Jackson 6 days later, after Jackson's departure from Fort Early (M. A., vol. 1, pp. 698, 699). On March 4, while en route to Fort Scott, Jackson informed Arbuckle of Gaines' presence, in good condition, with his command. (Jackson Papers, Library of Congress.)

We are not aware of any contemporary identification of the site of Gaines' disaster on the Flint River, nor have any subsequent writers attempted to identify it (Silver, 1949). Allison reported that he had examined the place where the wreck occurred, which he believed to be 45 miles by land above Fort Scott. Nicks reported that the marooned man was on an inaccessible island a mile and a half in length (sic) located about 10 miles below the point where the boat was wrecked.

In the report of his survey of the Flint River below Albany in 1872 for the United States Engineers, Hodges (Letter Sec. War, 1874, 43 C.–1, H. Exec. Doc. 65:19) does not mention the presence of any island 1½ miles in length in the river. Since the Flint flows in a rocky channel that erodes slowly, and the existing islands are of the country rock and consequently quite durable, we are justified in regarding as a decided exaggeration Nicks' report that the castaway's refuge had this length. This island was placed by Nicks at 10 miles below the point of disaster.

Recognizing that site names often commemorate events which of themselves have long been forgotten, we were struck by the name "Deadman's" ascribed by Hodges to a large rock island about 12 miles south of Albany, just south of the Daugherty-Mitchell County line, adjacent to River Bend Park on U. S. Highway 19. Between this and the Mingo Islands about a quarter of a mile above, the channel is narrow and much obstructed by rocks and reefs. Although the river was at a high stage when Gaines began his descent, his determination to travel at night could well have brought them to disaster in this stretch. About 10 miles below Deadman's Island, is another rocky islet bearing the name of Lucky Island, which in distance answers the description for the castaway's refuge. That these two names may commemorate the sites of Gaines' disaster is highly plausible, even though the distance of Deadman's Island from Fort Scott exceeds Allison's estimate by about 10 miles.

In anticipation of receiving supplies of flour from the Agency, departure from Fort Early had been delayed, but the arrival of the militia and the urgency of the situation at Fort Scott, obliged Jackson to depart with the available force on February 27, expecting to supplement the swine with some provisions he hoped to secure from friendly Indians en route (M. A., vol. 1, p. 698).

At Jackson's order, Maj. T. S. Woodward of the Georgia militia, had sent a talk to the Chehaw town, proposing that their warriors join the army, to which appeal they promptly responded when the army passed by, unaware of the tragic fate in store for their town during their absence. Although some supplies of corn, potatoes, and ground peas were secured at this place, Jackson felt obliged to write an urgent letter to Arbuckle on March 4, requesting the immediate dispatch of supplies from Fort Scott. On receipt of the letter, he promptly forwarded half of the flour stock at the fort by a detachment under Major Twiggs on March 6 (Jackson Papers, Library of Congress).

On March 6, a further band of about 600 Indians from the Chattahoochee, commanded by "Majors" Lovett and Kennard, joined the army, thereby increasing the force of auxiliaries to about 1,000 (Banks, n. d.). Meanwhile Major Woodward was successfully negotiating the treacherous channel of the Flint with a flat boat laden with ammunition, and evidently arrived at the fort on the 10th. Here he was placed in command of the Indians who had already joined the army.

Although space prevents consideration of the subsequent campaign below the Florida line, which gave rise to international repercussions and delayed the negotiations for the cession of Florida, one episode, explanatory of Jackson's actions, deserves mention. When Jackson was called into service, it would be presumed that lacking new orders, his operations would be determined by the tenor of those already issued to Gaines. However, before departure from Nashville, he wrote to President Monroe, calling attention to intrinsic deficiencies in these orders in case certain contingencies arose, and suggested that in the event possession of the Floridas by the United States was considered desirable, it might be signified to him through any private channel (proposing the offices of Mr. John Rhea, M. C.), and it would be accomplished in 60 days. A letter from Mr. Rhea purporting to communicate the President's confidential assent to the proposal, was allegedly received by Jackson before his arrival at Hartford; and on this implied approval, Jackson developed his campaign to a scope vastly greater than would have been possible by the orders to Gaines.

When later charged that his operations exceeded the scope of his authority, Jackson cited this letter. The authenticity of the communication was disavowed by Monroe, and Jackson could not or would not produce it, alleging that he had destroyed it in compliance with an indirect request from Monroe (Parton, 1860, vol. 2, p. 433).

The whole body of the Georgia militia did not accompany the army on departure from Fort Early, as Jackson reported on his arrival at Fort Scott late on March 9 with the brigade of 900 Georgia militia and some friendly Indians, and mentioned the unexplained absence of the Tennessee volunteers. The report of a provision scarcity was quickly confirmed, as he found the available supply of corn would only afford one quart per man. With a few head of cattle and the surviving swine, he estimated 3 days' rations were available. However, it was learned that two more schooners laden with provisions were actually in the bay, and that a keelboat had already been dispatched to bring up part of their lading. Preservation of the army demanded that it, instead of awaiting the arrival of the provisions, be taken to meet them. Jackson related that he took command on the morning of March 10. The livestock was ordered slaughtered, and their flesh, with one quart of corn, was issued to each man. The crossing of the river began at midnight, but because of high water and some neglect in promptly returning the boats during a dark night, the army was unable to take up the line of march down the east bank before 9 a. m. on March 11 (M. A., vol. 1, pp. 698, 699).

Jackson's brief stop at Fort Scott was sufficient for him to incorporate the greater part of the 4th and 7th Regiments of Infantry into his force. On his departure a detachment of 60 men, largely from the 7th, in command of Maj. E. Cutler, was left to garrison the post.

Major Cutler's period of command was brief, as before the end of March it devolved on Capt. John N. McIntosh. "Colonel" McIntosh with his party of Indian auxiliaries and 20 of the Ekanachatte captives, arrived at Fort Scott about March 19, where he awaited instructions from Jackson, which were received on March 24. Jackson approved of his leaving the captives in custody of the garrison. On that date the "Colonel" informed Jackson of his determination to immediately cross the Flint and join him at the Oak-e-lock-e-ny (=Ochlockonee) Bluff on March 28. In this case, however, it would appear that the "Colonel" proposed and the Captain disposed, for on March 27 Captain McIntosh reported to Jackson that part of the Tennessee Volunteers under Colonel Elliot had left Fort Scott on the 26th, while the remainder under Lieutenant Brook, with two companies of the Georgia militia under Captain Pierce, were to march, presumably on the 27th, in company with "Colonel" McIntosh. These belated reinforcements did not catch up with the army until shortly before the action at Mikasuky on April 1 (Jackson Papers, Library of Congress; M. A., vol. 1, p. 703). Supplies finally began coming down the Flint, as Captain McIntosh reported to Jackson on April 6 the arrival of a boat from the Agency with 350 to 400 bushels of corn and 8 to 900 pounds of bacon, although unfortunately another boat was lost.

Our limitations prevent us from following the reinforced army through the brief and highly successful campaign.

On April 20, at Suwanee Old Town, Jackson, at the request of General Glasscock, ordered the latter to march his brigade by way of Mikasuky to Hartford, there to be mustered out of service by Captain Bell (M. A., vol. 1, p. 704). After suffering considerable hardship from provision shortage, they reached Hartford on May 1. When but a few days march from St. Marks on the return from Suwanee on April 24, McIntosh's warriors were also dismissed, bearing orders to proceed to Fort Scott where they were to be mustered out by the commanding officer (M. A., vol. 1, p. 704). During the campaign, Jackson formed two regiments from the auxiliaries, promoted McIntosh to a "Brigadiership," made "Colonels" of Lovett and Kennard, together with a host of lesser promotions.

Leaving a garrison of 200 men under Major Fanning to occupy Fort St. Marks, Jackson with a reduced force, left for Fort Gadsden [3] on April 28. A few days before, he had expressed to the Secretary of War his intention to proceed to Nashville directly from that point, which he reached on May 2. Intelligence received on his arrival there, led him to conclude that the presence of his troops was imperatively required at Pensacola. With a force consisting of a small detachment of the 4th Infantry (137 men), one company of artillery (4th Batt., 52 men), and the effectives of the two regiments of the Tennessee Volunteers (837 men), the whole army amounting to 1,092 men, Jackson departed from Fort Gadsden on May 7, and on the 10th crossed the Apalachicola River into West Florida at Ocheese Bluff. It is not evident where the artillery company joined the army, as it does not appear to have been that of Captain Donoho previously stationed at Fort Scott (M. A., vol. 1, pp. 704, 708, 718).

Following Jackson's whirlwind transit of Fort Scott and the incorporation of the greater part of its garrison into his army and the termination of his subsequent campaign, tranquillity descended on this segment of the frontier. This calm was reflected in the meagerness of references to this post in the remaining 3 years of its occupation, thus forecasting its future oblivion.

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[3] Fort Gadsden was laid out at Prospect Bluff on the lower Apalachicola River, by Capt. James Gadsden in 1818 by order of Gen. Andrew Jackson, on the site of the Negro Fort built in 1814 by the British. By direction of the latter, it was named for its constructor. Jackson left a garrison there on his expedition to the Suwannee River, and returned there before proceeding to Pensacola in the same campaign. Thereafter a United States garrison was maintained there until after the cession of Florida.

In the National Archives are preserved fragmentary records of the morning reports of the garrison during 1817 and 1818, and monthly returns of the command for some months of 1818, 1819, and 1821, but none for 1820 have been found in that repository. Fortunately much essential data for 1820 are to be found in Forry (1840). These sources indicate that during the years subsequent to Jackson's campaign, the garrison largely consisted of companies from the 7th Regiment of Infantry, the strength ranging from a minimum of 60 men in May 1818, to a maximum of 760 men in the last quarter of 1820. The presence of the colonel of the regiment in 1821 indicates that this post was for the time being the regimental headquarters. Throughout 1821, no less than eight companies of this regiment were at the post, with a maximum strength in that year of 541 during June. The reason for the continued occupation of the post is unknown, unless in anticipation of possible need during the occupation of the newly ceded Floridas.

Different officers were in command for varying periods. In June 1818, Capt. S. Donoho succeeded Major Cutler, and in turn was followed by Capt. J. J. Clinch in November. Maj. D. E. Twiggs returned to command in December, and continued into the early part of 1819. Lieutenant Colonel Arbuckle also returned to command during the spring and summer of that year, and again returned, this time with the rank of Colonel, during the 4 months ending in September 1821. Another in command late in 1819 was Maj. John Nicks.

During 1820 Fort Scott became recognized as one of the most unhealthy stations occupied by the army. Two nearby Florida posts had an experience of nearly equal gravity. The available data provide a depressing picture of life at Fort Scott. The rapid deterioration in 1820 may have been a consequence of the transfer of invalids from Fort Gadsden on the Apalachicola River. Thus during the second quarter of that year, with an average strength of 410 in the command, there were 8 deaths, but, of the latter, 6 occurred in recently arrived invalids transferred from Fort Gadsden. At the latter post 7 recruits had died soon after their arrival from the North, and of those invalids transferred to Fort Scott, Surg. Thomas Lawson (Forry, 1840, p. 19) remarked that 5 or 6 more had died on the passage, in consequence of being confined for more than 20 days in a small vessel, and deprived for the greater part of the time of medical aid. Lawson spoke of the steady increase of "intermittent" and "remittent" fevers during that summer. These names are the now obsolete terminology for certain types of malaria infections, of which the latter is the equivalent of the highly dangerous falciparum malaria. During the last quarter of 1820, in a strength of 780 men, there were 769 cases of illness with 32 deaths. It was during the course of this epidemic, or series of epidemics, that Camp Recovery (q. v.) was established. Lawson (Forry, 1840, p. 24) related that toward the end of the quarter, intermittent fever was nearly invariably complicated by diarrhea and dysentery, while remittent fever and scurvy were more frequently seen in conjunction. Thus:

> For days, for weeks, nay longer, would one of these poor creatures stagger under the burden of intermittent fever, dropsy, and scurvey, combined, when the diarrhoea also coming on him, he necessarily sank under the accumulated weight of disease.

During several quarters the mortality was mainly confined to northern recruits.

In the first quarter of 1821 illness continued rife, and with a mean strength of 750 men, there were 541 cases of indisposition. We are unaware of the number ill during the second quarter, but there were no fatalities. Forry (1840, p. 29) stated that during the third quarter there were 18 deaths at Fort Scott and *neighboring encampments*, from which it might be inferred, although nowhere so stated, that Camp Recovery was again occupied.

Discipline at Fort Scott appears to have been very slack. Forry (1840, p. 29) quoted Surgeon Lawson as declaring that

> for the last two years our cantonment has never been encircled by a chain of sentinels; nay, the resemblance scarcely of guard duty has been maintained within our command.

Forry himself stated that

> The men unrestrained gave loose to their inclinations, and wandered through the country by day and by night to the manifest prejudice of their health, and in violation of every rule of military service.

Although at this period regular issues of liquor constituted a standard part of Army rations, the complaint of intemperance and irregularity of every description strongly suggests that these forays through the countryside were made in search of further supplies of liquor from civilian sources. Forry further declared that

> moral as well as physical causes . . . have had an agency in producing prostration of the 7th Infantry. Prostrate indeed it is, for it is crippled beyond recovery, and lies a wreck subject to the influence of every blast.

It is likely that the transfer of the 7th Infantry and the abandonment of this post is an indication that the War Department was finally convinced that the site was too insalubrious for further occupation. Forry (1840, p. 31) related that in September the 7th Infantry "took up the line of march from Fort Scott," and further on remarked "Having descended the Appalachicola and being encamped near its mouth," which appear to be contradictory, and leave a doubt as to whether descent was made in boats or by an overland march along the riverbank. At any rate, the sick list at that time numbered 154, and the remainder were generally enfeebled. While encamped awaiting transportation, the troops were exposed to severe weather, with augmentation of the sick list. After considerable delay seven sloops and schooners arrived for their transportation to New Orleans. Apparently the men, including the sick, and the baggage were so divided as to assign approximately a company to each vessel, an arrangement which deprived the men in most of the vessels from medical aid. After further delay in New Orleans, where the regiment was divided into two battalions of five companies each, the command embarked on river steamers, the sick being sent to Fort Selden, near Natchitoches, and the remainder to Fort Smith, Ark.

It is not known whether upon abandonment the work was demolished, or the buildings left to mould and decay.

As settlement progressed, this point on the Flint acquired some importance as a crossing place, for on December 15, 1821, the Georgia Legislature gave a franchise to John Griffin for a public ferry across the river at that point.

PART 2. HISTORIC SITES ADJACENT TO THE WOODRUFF RESERVOIR

EKANACHATTE OR RED GROUND

It is inferred that this site was last occupied by a band of relocated Alabama Indians, and was known by the name their village bore when on its original location. Later these immigrants appear to have been displaced from their new townsite by hostile Red Sticks, although the townsite continued to bear the name formerly given to it.

Location.—It lay on second bottom or at higher elevation, south of Irvin's Mill Creek, adjacent to Neal's Landing, in fractional sections 23 and 26, and whole sections 22 and 27, township 7 north, range 8 west, in Jackson County, Fla.

Identification.—The earliest known recognition of this town is on the Purcell-Stuart map of 1778, on which it is shown on the west bank of the Chattahoochee River, at the point where the Pensacola-St. Augustine road of that date crossed the river (pl. 53). It lay south of an unnamed small stream (identified with Irvin's Mill Creek) that enters the river from the northwest.

Condition.—Obliterated. The site is now in woodland and cultivated fields of sandy loam. There is little or no red clay exposed.

Authentication.—Bullen's (1950) collecting sites, numbers 42, 43, 46, 47, 48, 49, and 50, where scratched or brushed Lower Creek sherds were found, are regarded as indicative of its extension.

Interpretation.—Since it was not mentioned either on the list of five Lower Creek towns represented at the council held at Fort St. Marks with Col. John Stuart (1764) in September 1764, or by Taitt (Mereness, 1916 a) in 1772, the town likely was established shortly prior to 1778. There is a possible derivation from E-cun-chate (-Kan-tcati=Red Ground), described in 1798 and 1799 (Hawkins, 1848, p. 36), as being the uppermost of four Alabama towns on the Alabama River on the site of Montgomery. According to Swanton (1922, p. 198), on the authority of John Stuart, some bands of Kan-tcati moved into northern Florida about 1778. Should such immigrants have been the people who occupied this site, the absence of red clay from the immediate vicinity of the settlement suggests they gave the town the name of their original home.

Prior to the establishment of Ekanachatte, the infrequent travelers from Pensacola and Apalachee to St. Augustine, apparently had their choice of other routes. Thus, about 1768, Pittman (1934) described two routes in use at that time. The first, said to have been easiest in the dry season, crossed the Apalachicola River about 2 miles below the fork to the town of Tomothlies (Tamatle; Tomatly), then situated on the east bank. The second route, practicable throughout the year, followed a course much to the northward, to cross the northwest branch (Chattahoochee) of the Apalachicola 40 miles above the fork at the village of Ichiscataloufa (Cheskitalowa; Chiskatalofa), situated on the west bank. The 1778 crossing place at Ekanachatte, was situated about midway between the two former. The dependable availability of canoes and paddlers at a town probably favored ferriage, and may have been a factor in influencing the decision of a traveler.

During the American Revolution, Col. John Stuart sent a small party of whites overland from Pensacola under the leadership of David Holms (1778) to assist in the defense of St. Augustine from a threatened attack by the rebels. He had orders to tarry in Middle Florida to secure reinforcements of Indian partisans from that region. In his company was Joseph Purcell, the topographer, who used the opportunity to gather data for his celebrated map of the road from Pensacola to St. Augustine. Holms tarried in Ekanachatee (sic) for a week to allow the Indians to assemble in response to his summons for a talk. He was obliged to regale them with presents purchased from the local Indian factor known as "the Bully." Holms credited the town with 22 gunmen.

Purcell's own description of the town, given in the legend of the 1778 map, credits it with 26 houses, a Chuko-thlako or great house, commonly called the square, 10 families, and only 10 gunmen. According to him, the individual Holms described as the factor, was the headman or chief whose name was Cockee, although commonly called the Bully by the traders.

In 1789, the Bully as well as the Indians from several other towns on the lower river who came under the influence of William Augustus Bowles, were awaiting the arrival of Bowles' present-freighted vessel, which was expected to ascend the Apalachicola River to the fork, from whence its lading was expected to be transferred either to the place called the Bully's, or to the house of Burges, or to that of Perrymand (Perryman) (Caughey, 1938, p. 222). According to Swan (*in* Schoolcraft, 1855, vol. 5, p. 261), the Bully, a Spanish halfbreed, was in 1790 about 50 years of age, had three young wives, and for size and strength had never found his equal. In wealth and influence among the Seminole, he was reputed to be the equal of John Kinnard. The account of his wealth is confirmed by Pope (1792, p. 64), who said he had only two children, both daughters. The time and circumstances of his death are unknown, as well as the immediate succession to his leadership.

For nearly three decades Ekanachatte dropped from sight. The name reappeared in 1817, compounded in the title of a chief. Capt. Hugh Young in 1818 (1934–35, p. 87) described Conchallamico (sic,= Conchattamico (the double ll = uncrossed double tt) as a man of talents, but hostile to the whites. He and the warriors of his town were alleged to have participated in the attack on Major Muhlenburg's vessels while ascending the Apalachicola in 1817 (H. Rep. 72, 16 Cong. 1:61).

In mobilization for General Jackson's Florida campaign of 1818, Colonel Brearly, on General Gaines' order, recruited an extensive force of Creek auxiliaries. These were organized in semimilitary fashion under "Col." William McIntosh, the well-known halfbreed chief of Kasita. On way to a rendezvous with Jackson at Fort Scott, McIntosh led about half this force down the west bank of the Chattahoochee in search of hostiles. After leaving Fort Mitchell, he either avoided or passed around other towns on the lower Chattahoochee until he reached that of Couchatee (sic Conchatee) Mico or Red Ground chief, which he attempted to surprise on March 13. In this he was successful, and captured 53 men and 130 women and children. Conchatee Mico was absent, endeavoring, with the aid of 30 men, to drive off a large herd of cattle which he had on the Chaubulle (Chipola) Creek. McIntosh with a party tried to capture the herdsmen and their herd. McIntosh secured the cattle, but the herdsmen, being well mounted, got away. The captured women and children were sent to the Nation, and some of the surviving captive warriors were taken to Fort Scott for confinement while McIntosh went to join Jackson near Mikasuky. McIntosh regarded these as the only hostile group on the west side of the river, and their capture as terminating the campaign in that quarter (McIntosh, 1818).

It seems unlikely that in the period from 1783 to 1818, the ranks of the gunmen of Ekanachatte could have increased from 10 to 83 through normal increment. The great increase in numbers, as well as the hostile posture of the town, might be attributable to the presence of further immigrants, to Red Stick refugees from the Upper Creeks, who sought asylum in this Florida town. All of the towns of the Alabama tribe were numbered among the Red Sticks, and if the settlement had an original Alabama derivation, it is likely it would have attracted Alabama refugees. However, as we have seen, this town was broken up and the inhabitants dispersed by McIntosh.

Neamathla's town list of 1821 submitted to General Jackson (H. Rep. 51, 17th Cong.-2: 10), included Tock-to-eth-la, situated on the west side of the Chattahoochee, 10 miles above the fork, and said that it had from 40 to 50 warriors who were raised at the Econ-cha-tee or Red Ground, and moved down. This town was later incorporated in Econchatimico's reservation (q. v.). This would indicate that this person owed his title from prior residence at the former site. This raises the question of the reason for his removal. Considering that McIntosh's devastation of the Ekanachatte site was likely thorough, it hardly seems probable that the Conchatee Mico known to McIntosh could have assembled such a large number of his former adherents had they been dispersed. What seems plausible, is that the friendly later-day Econchatimico was displaced from his village of Ekanachatte, and his title usurped by the leader of a band of fugitive and hostile Red Sticks. This usurpation may have occurred subsequent to August 4, 1817, as on that date the first and second men of Conchatti (=Ekanachatte) participated in an amiable council at Fort Scott with Major Twiggs. (See Fowl Town 1 herein, p. 291.) From the friendly attitude exhibited by these men, it would hardly seem that they could represent the hostile interlopers whose presence we suspect.

However, by February 24, 1818, Arbuckle could write Colonel Brearly as follows: "the Otessee Mico or Mico Decoxey and the Red Ground Chief and others of the hostile Indians are on the Chipola" (Jackson Papers, Library of Congress).

Since by Otessee Mico, Arbuckle referred to Homathlemico, who was seized and hanged a few months later by General Jackson, it appears unlikely that the previous use of the word *or* is to be taken as indication that the names are either synonymous or aliases, but rather indicate that *one* or *the other* is meant. This Red Ground chief is undoubtedly the individual, rather than the genuine Econchatimico, who later escaped from "Colonel" McIntosh as described. On May 23, 1818, General Jackson charged Governor José Masot with harboring the "Red Ground chiefs Muldecoxey and Holmes, avowedly hostile to the United States," in Pensacola. In a letter to R. K. Call of August 5, 1818, Jackson referred to the earlier presence in Pensacola, of "the Red Ground chief Holmes, (and) Miccadosy, being there" (Brevard, 1925, vol. 1, p. 257). The usurping and hostile Red Ground chief appears to have been known as Holmes, and likely obliged the legitimate Econchatimico to relinquish his town near Irvin's Mill Creek.

The surname Holmes suggests that this individual was a halfbreed, in which case, despite the difference in the spelling of the surnames, he may have been the progeny of the David Holms already mentioned. The other hostile, whose name is variously written Mico Decoxey=Miccadosy=Muldecoxy=Micco de Cozey=Micotocoxa=Mico Tecocksey, or Hatas Mico, had, as previously mentioned, prior to the establishment of Fort Gaines, a village on the river, Etohussewakkes, 3 miles below the site of that post. He probably found its proximity uncomfortable, and removed to Red Ground, participating in the dispossession of some or all of its legitimate occupants. He was reported as having been killed in West Florida subsequent to the close of the campaign of 1818, to Jackson's expressed satisfaction (M. A., vol. 1, p. 744). If correct, it likely was the consequence of the raid on the "Uchee and Holmes' old fields on the Choctawhatchee," by a party under Captain Bowles (or Boyle), sent from Pensacola on order from General Jackson (Williams, 1827, p. 103).

On July 13, 1814, Hawkins (I. A., vol. 1, p. 860) observed that an Indian whose name was spelled, perhaps phonetically, as *Homes*, and parenthetically was also mentioned as a Red Stick chief of *Heithlewaulee* (Upper Creek), had been down on the lower Apalachicola River to receive arms from the British. Certain circumstances justify consideration of the possibility that this person may have been the *Holmes* under discussion, for

(*a*) Each was a Red Stick;
(*b*) Both appear to have been chiefs or leaders;
(*c*) The *Homes* had been down to the British post, and hence could have become familiar with the living sites on that river.

Since Hawkins mentioned that the father of *Homes* had been a runner for the Forbes' store on the Apalachicola, he may not have been a mixblood. Furthermore, Surg. Thos. G. Holmes, himself a mixblood, who was a member of the force of Maj. Uriah Blue mentioned elsewhere, which sought hostiles in the territory between Pensacola and Apalachicola in December, 1814, related to Pickett (n. d.) that Blue received report of a newly begun Indian town to the eastward of the Choctawhatchee River in *Holmes* (sic) Valley. It is not evident from his account that Blue's force reached this town site. Since the date when Dr. Holmes related his reminiscences to Pickett is unknown, it cannot be determined from this whether the valley bore this name in 1814, or whether it was used because of its currency at the time when Holmes talked with Pickett. Furthermore, the identity of surnames raised the question as to whether the two Holmes may have been brothers.

This raises the interesting question of the origin of the application of the name "Holmes" to the creek and to a county in West Florida. The report of the West Florida Land Commissioners (Public Lands, vol. 4 (1859), p. 62) does not disclose any early settler of this surname in the area prior to the Florida cession. Neither does the census of Washington County in 1830 (which then embraced the area of Holmes) bear such a name on its roll. The Act of the General Assembly creating Holmes County by the dismemberment of Washington County (Florida, 1848) does not indicate the source of the name, but in describing its boundaries, it specifically mentions Holmes Creek as constituting a part thereof, which indicates that the name of the creek antedates that of the county. This inference is supported by the designation of the creek as Holmes Creek on Williams' (1827) map of West Florida, only 9 years after Holmes' reported death. When it is recalled that the "Uchee and Holmes' old fields" were the objectives of a raid in 1818, and that they are localized as adjacent to the Choctawhatchee River, and since Holmes Creek is a tributary of the former, it appears highly probable that the name perpetuates the memory of this Indian, rather than of some unidentifiable white settler.

Whether or not Econchatimico was a descendant of the Bully cannot be determined, but his family had long been resident in Florida. In a lawsuit over inheritance of slaves many years later, Econchatimico was said to have had a maternal uncle, one Falehigee, who from 40 to 50 years prior to 1831, lived and died in Florida near Mount Vernon (the present Chattahoochee) (U. S. Cong. H. Doc. 271, 24th Cong.–1: 35).

When Econchatimico is next heard from, he was in attendance at the Moultrie Creek council in September 1823. He and five other chiefs from Middle Florida stubbornly resisted the proposal to concentrate their bands with the other Florida Indians on a reservation in the central part of the peninsula. In order to secure their acceptance of the treaty, the United States Commissioners found it necessary to append a further article to the treaty, establishing four small reservations in Middle Florida. The northernmost of the three, on the west bank of the Chattahoochee, was assigned to Econchatimico. Its stipulated limits were described in terms starting from Econchatimico's then existing dwelling. Part of this tract, lying on red clay, would have justified use of the former name, which, however, was not applied to the settlement (see Econchatimico's Reservation herein).

SAN CARLOS

San Carlos de Chacatos was a 17th-century village of Christian Chacato or Chatot Indians.

The Chacato are not to be confused with the present day Choctaw, although some translators of Spanish documents (i. e., Leonard) have so rendered the name Chacoto. They were not members of the Muskogee or Creek confederation.

Location.—The site lies in fractional section 31, township 4 North, range 6 West, in Jackson County, Fla., occupying the top of a bluff on the west side of the Apalachicola River, about in line with the axis of the Woodruff Dam. Part of the site is now occupied by the Apalachee Correctional Institution, east of which some of the bluff top has been graded down to provide space for warehouses and shops of the construction force at work on the dam. To the north of the graded area, a part of the original surface of the bluff is preserved in a very young orchard. The bluff was formerly skirted by a segment of U. S. Highway 90, now relocated to the southward.

Identification.—Provisional, as there are no contemporary maps known which show the area.

Condition.—Most of the site has been materially altered or obliterated in the course of the last few years.

Authentication.—Bullen's (1950) collecting sites, Nos. 1 and 3, which are within a quarter of a mile of each other, are regarded as representing the village area. Aboriginal sherds encountered were assigned to the Leon-Jefferson period of occupancy. The contemporary presence of Spaniards is indicated by sherds of *tinajas* at site 3. No opinion can be formed as to whether the otherwise unrecorded skeleton in Spanish armor mentioned by Lanman (1856, vol. 2, p. 147) as having been found in the river nearby, belonged to this period.

Interpretation.—Our introduction to the Indian village of San Carlos is in the 1675 relation of Bishop Calderón (Wenhold, 1936), which was transmitted to the Queen of Spain with a letter dated Havana, January 4, 1676. He related that at a total distance of 14 leagues from San Luis (of Apalachee), on the bank of the *Apalachicoli* River, there was a heathen village recently renamed La Encarnacion a la Santa Cruz de Sabacola. Extended consideration has already been given to the problem of the site of this village. The Bishop further stated that 9 leagues from La Encarnacion, on the northern frontier, is another (village) named San Nicolas, and 3 leagues beyond, still another named San Carlos, with something like 100 inhabitants. Both were of the Chacato nation, and although they had requested baptism 14 years earlier, this was not effected until 1674. The vagueness of these remarks does not suggest they were personally visited by the Bishop.

Fortunately we have another mission relation, also of 1675, prepared by Captain Juan Fernandez de Florencia, deputy governor of Apalachee, made in compliance with an order from Don Pablo de Hita Salazar, Governor of Florida (Boyd, 1948). The governor's letter transmitting this report to the Queen, was dated St. Augustine, August 24, 1675. Unfortunately the section relating to the Province of Apalachicola in the copy available to us is badly garbled. Attempting to correct (in brackets) the obvious errors, the translation reads:

> From the village of San Luis toward a river by which one may go to the Province of *Apalachecole* two [*twenty* two] leagues. [A further omission here.] . . .
>
> From the river to the only two missions of the Province of the Chacatos, *which are no more* (Ital. Au.) and which were established in the past year; the first of which is called San Nicolas de Tolentino and will have one hundred persons. It is ten leagues from the river.
>
> From this to San Carlos is four leagues. It may have four hundred persons. In these two places are two missionaries and on the said river of Santa Cruz, another.

No further information relating to San Carlos is available until 1686, in which year Marcos Delgado lead an expedition overland from San Luis to the Upper Creek towns. In a letter to Gov. Marquez Cabrera, written after his arrival at one of the Upper Creek towns, he mentions San Carlos by name as his point of departure into the unknown on September 2. In his report of this journey to the governor, he wrote:

> Continuing on this course one league is the Apalachicola River . . . and at the landing place of a village of Christian Chacatos it is 12 feet [depth] without being in flood. Departing from the village of the Chacatos to the northwest . . .

The statements of Delgado himself would indicate he found a previously unnoted village of Christian Chacatos on the west bank of the Apalachicola, which was known as San Carlos. It is evident that in the intervening 11 years the village had been moved eastward to the river (Boyd, 1937).

The village at this site was again mentioned in the journal of Governor designate Don Laureano de Torres y Ayala, who lead the first overland expedition from Apalachee to Pensacola Bay in 1693, on which he was accompanied by another journalist, Fray Rodrigo de la Barreda (Leonard, 1939). Torres y Ayala related that on June 9:

> At the evening hour of prayer I reached the banks of the river called the Apalachicola, ... That same night I, the reverend fathers and several others crossed the stream in dugouts with considerable difficulty to a spot on the opposite side to spend the night . . . . This place they call the Choctaw [sic] village, and it is the most outlying mission post and curacy of his Majesty in this region.

It may be mentioned that he further states that after leaving this village on June 11, he traveled northwest for 2 days, and on the night of the second day:

> pitched camp in a cave, a very pleasant spot called San Nicolas, where there was formerly a Choctaw [sic] village.

Father Barreda was now on familiar ground. He relates:

> Having ferried over the *Palos* [sic] river in a dugout . . ., we pitched camp at a Christian village of the Choctaw [sic] tribe.

He further stated that on the twelfth they:

> reached an abandoned village of the Choctaws [sic] called San Nicolas, where I came to preach the Holy Gospel in the year '74,

recalling the earlier labors of himself and a clerical companion in this territory.

Of the numerous caves in the vicinity of Marianna, only Rock Arch cave, about 2½ miles to the northwest of that city, has a vaulted chamber near the entrance of dimensions sufficient to have sheltered a party of this size. Hence, San Nicolas must have been in the immediate vicinity of this cave. While the original site of San Carlos clearly lay beyond, its position is unknown.

Father Barreda's labors in the Province of the Chacato had been quickly terminated. In the very year of their initiation, the priests were threatened by some individuals of the Chisca (Uchee) who lived to the westward of the Chacato, necessitating an appeal to the deputy governor of Apalachee for military protection. Although Fernandez proceeded to the Chacato country with 25 soldiers, their presence only temporarily overawed the hostile element, as in the following year, the Chisca were credited with the incitement of a successful rebellion of the Chacato, in the course of which Fray Barreda was wounded, and forced to retire to the Santa Cruz station on the Apalachicola, where he remained under the protection of Florencia (Swanton, 1922, p. 135; Lowery MSS., vol. 8). Gov. Pablo de Hita Salazar advised the Queen of this reverse in a letter bearing the same date as that transmitting the mission list previously referred to, which accounts for his statement that San Nicolas and San Carlos "were no more." The hostility of the Chisca became more pronounced, even extending to raids into Apalachee, which finally compelled Florencia to raise a strong mixed force in 1677, which crossed the Apalachicola and passed to the westward of a large river called the "Napa Ubab" (probably the Choctawhatchee), where they discovered the palisaded Chisca town, which was captured and destroyed in a surprise attack (Serrano y Sanz, 1913, p. 205).

About this time some of the Chacato, probably the most devout converts, removed to the vicinity of San Luis in Apalachee, the name of their village, Senor San Carlos de Chacatos, first appearing on the mission list of 1680 (Lowery MSS., vol. 9), where it is mentioned as a new conversion. The village established on the west bank of the Apalachicola was probably peopled by those disinclined to remove from their tribal lands but who still desired to live in closer proximity to the Spaniards.

NICOLLS' OUTPOST

The *Red Sticks* or *Red Clubs*, frequently mentioned in this report, were a faction, sect, or cult which developed among the Indians of the Creek nation. The name was symbolically expressive of their inveterate hostility to both the United States Government, and the American settlers who were steadily encroaching on their lands. The members of the faction were devoted to a semireligious cult introduced by Tecumseh, a northern Shawnee, who had conceived the idea of a general Indian alliance to further the expulsion of the whites from the continent. The British in Canada, in anticipation of an early war with the United States, saw that the cult afforded an opportunity to harass their former colonies, and, prior to the War of 1812, encouraged Tecumseh to tour the Indian nations of the southeast to promote the movement. Space does not permit a discussion of the causes which made the Creeks an unhappy and discontented people, but they were a favorable field for such proselyting, and Tecumseh's boast that his converts would be invulnerable and invincible in the anticipated conflict, produced an unshakeable confidence in the success of their fanatic belligerence. His principal disciples, who continued proselyting after his return northward, were known as prophets. One of the most prominent of these to survive the Creek war was a mixblood, Josiah Francis (Hillis Hadjo), who was hung at St. Marks in 1818 by order of General Jackson. In their fanatical zeal to accelerate extension of the movement, the Red Sticks undertook to effect conversion of those friendly to the whites by the use of threats and intimidation. While these tactics may have effected conversions in some, they made others more stubborn in their opposition, so that the nation was soon involved in civil war, as well as hostility with the United States. Space does not permit consideration of the Creek War of 1813–14 per se. Some idea of its course may be gained from the correspondence in: Indian Affairs, vol. 1, pp. 826–861; from Halbert and Ball (1895); Pickett (1896); Bassett (1911) vol. 1, and (1927) vol. 2; Parton (1860), vol. 1; and the Memorial of the Horseshoe Bend Battle Commission (1909) Sen. doc. 756, 60 C.–2.

Location.—The site discussed in this sketch is unidentified. It is known that during the late phases of the War of 1812, shortly after the British force under Col. Edward Nicolls erected the fort at Prospect Bluff on the lower Apalachicola River, there was also erected a dependent outpost near the confluence of the rivers. Thus, Don Mauricio de Zuñiga, Spanish Governor of West Florida, said in a letter dated May 26, 1816, to General Andrew Jackson, that on his arrival at his post toward the end of the past March, he learned of the existence of the "Negro" Fort, and stated that:

> said fort, and another near the confluence of the Chattahoochee and Flint (which it appears no longer exists) were built by order of Colonel Nicolls, but cannot say whether by order of the British government or not." [U. S. Cong. H. Doc. 65; 16 C.–1: 55.]

Cartographically the work, understandably enough, was not shown on John Melish's (1814) "Map of the Southern Section of the United States . . . showing the Seat of War in that department," but it was shown as "Nichol's Old Fort," lying north of the Florida boundary, on Charles Vignoles' (1823) "Map of Florida," and it retained the same label and position on H. S. Tanner's "Map of Florida" (American Atlas) of 1825. Tanner was the engraver of the Vignoles map. What we have regarded as a more trustworthy contemporary map is the undated anonymous production, "Plan of Lands in East Florida Purchased by Messrs. John Forbes & Co. from the Indians," which shows "Nichol's Old Fort" as south of the international boundary (Boyd, 1937, frontispiece).

Williams (1827, p. 34) wrote:

> At the junction of the *Chattahuche* and Flint rivers, on the eastern bank, are the ruins of an extensive and regular built fortification. The bank is two or three hundred feet high; . . .

Later he wrote (1837, p. 201):

> A small fort was also built about two miles below the junction of the Chattahoochee and Flint Rivers, and one mile south of the old Appalachicola fort.

The introduction of a second fort in this description adds to the confusion. It may allude to a small Spanish work, about which only the vaguest allusions have been encountered, and which we will not consider.

In view of local unawareness of these sites, what appeared to be a significant lead is an observation made by the Comte de Castelnau (1948, p. 206) during his tour of Middle Florida in 1837–38. He stopped at the tavern on the riverbank at Mount Vernon (the present Chattahoochee), and described certain elevations observed in the vicinity as follows:

> Near the tavern are two enormous *tumuli* covered with trees, and adjacent to the river, one sees a very remarkable artificial elevation; it is about one hundred and eighty feet (*cent quatre-vingt pieds*) high, square in form and may cover perhaps two-thirds of an acre (*deux tiers d'un acre*). It is reached by a fine artificial dirt causeway. This work seems to date from great antiquity, but it is covered with earth entrenchments evidently modern, and probably made by American soldiers at the time of the invasion of Florida under General Jackson, at least that is what an old soldier who took part in this expedition told me.

The last statement in explanation appears improbable, as Jackson's march down the east bank of the river was made at an accelerated pace.

The dimensions given attribute impossible proportions to this "remarkable artificial elevation," as they make it higher than the side of its base, and thus devoid of the slope requisite to establish a stable angle of repose for the substance of its bulk.

The tavern at which Castelnau stopped was likely on the riverbank at the steamboat landing. This was not close to the present bridge on U. S. 90, but north of the mouth of Mosquito Creek and the present L. and N. railroad bridge. C. B. Moore (1903) describes no less than six Indian mounds on the east bank of the river near Chattahoochee, two on the river margin, and four in the river-bottom swamp. Of those on the river margin, one was located close to the landing, the other "a short distance farther up," probably that whose vestiges are still visible just south of the highway bridge. At the time of his visit, both were badly eroded by the river. Their height was 7 and 11 feet. None of those in the river bottom exceeded 4 feet.

Obviously none of these approximate the enormous dimensions ascribed by Castelnau to the "remarkable artificial elevation," and one is forced to conclude that he was impressed by a natural elevation.

Although the bluffs on the east side of the Apalachicola River are of majestic proportions, they in general form an unbroken escarpment except where eroded by streams. The only isolated hill of impressive proportions north of Mosquito Creek lies to the westward of the town of Chattahoochee, where U. S. Highway 90, after traversing the town, formerly curved southward to descend to the Apalachicola River bridge, and skirted the base of this hill lying to the westward or right side of the road. Although the base of this hill formed part of the bluff escarpment, its summit was an isolated knoll, nearly as high as the plateau on which the town is situated. It formed part of the lands of the Florida State Hospital, and lay in fractional section 32, township 4 north, range 6 west, in Gadsden County, Fla. Based on sea level datum, its summit was approximately 210 feet high, and it rose approximately 140 feet above the river bottom. The hill was recently razed in relocating the highway approach to the bridge.

The crest of this knoll was perhaps 100 feet in length and 40 to 60 feet in width. After clearing the greater part of the summit, no traces of earthworks were discovered. Three trenches cutting across the margin of the crest were excavated in 1953 under the supervision of Mr. Ripley Bullen, which failed to reveal any filled ditches or postholes of a possible palisade or stockade.

The later mentioned report of a scout who related he had seen a large party of troops engaged in building houses (then unenclosed by palisade or ditch), about 2 miles east of the old fields where the Commissioners of Limits had encamped, has not been investigated. Assuming that the latter site was close to that of the Commissioner's observatory herein discussed, the building site would have been located to the east of Mosquito Creek, where it would not have commanded the Flint River. Should the latter have been the purpose of the outwork, which appears to be unquestionable, it more plausibly would have been situated on one of the high bluffs to the east or south of the river. In this case the bearing would have been north rather than east, and the distance in excess of 2 miles. This assumption would appear to bring the name of the forgotten "British Burial Ground Landing" into focus, which would justify an exploration of those bluff tops north and east of Chattahoochee that command a view of a long reach of the Flint River. A site in such a position would have been to the north of the international boundary. Circumstances did not permit a reconnaissance to test this hypothesis.

British Burial Ground Landing was situated on the east side of the Flint River just below the second bend in the river about 1 mile downstream from Fort Scott. No one could be found who knew of any graves in that vicinity. During the clearing operations several of the slight elongated mounds with a corresponding elongated depression close by one side of the mound were found, which represent situations where a tree was blown over with its roots, the depression being the area whence the roots were dislodged, and mound the dirt which fell off the roots as the tree decayed. Such conformations, sometimes called "Indian graves," are an indication that the area has never felt a plow. The foot of the bluff was about an eighth of a mile to the southward. About one-quarter mile down the river bottom to the westward is the rise of Whidden Spring, the run of which discharges into the river about one-half mile below the landing. To the south of the spring run is a pronounced salient in the bluff escarpment, from the top of which a commanding view may be secured of the river reach toward Fort Scott to the north, and westward for a mile down the river. The situation would be an excellent one to command the river, especially an approach from the north, and would have been a logical site for an outpost to command the river. The bluff top, which is in cultivation, has been searched by Frank S. Jones and Roland Bowers of Bainbridge. No sherds of aboriginal pottery were discovered, but some of china were found. Tales of the discovery of a small cannon in the nearby river bottom have been heard, but all attempts to elicit information have been met by the declaration that it mysteriously disappeared, from which circumstance no credence is placed in the tale. A bayonet of definite significance was discovered about 20 years ago on the north bank of the Flint, near the site of the former Whaley Saw Mill, about 300 yards below the mouth of Spring Creek. It is now in the possession of Frank S. Jones, and is stamped as follows: The capital letters DLLY surmounted by the numerals 46, above which is a three-pointed crown. Mr. Jones submitted it to Captain Carey of the Smithsonian Institution, who reported that the bayonet had belonged to a British regiment which came to America and was sent to South Carolina, and at the close of the Revolution was sent to one of the West Indian Islands, which very well could have been Jamaica. It is not unreasonable to suspect that it could have returned to the continent as part of the armament of the British troops sent to the post on the Apalachicola, or as armament for distribution to the Indians. The bayonet is not seriously corroded, being coated with black ferric oxide.

Identification.—Unsuccessful.

Condition.—In the case of the hilltop on the hospital grounds, the top of the hill does not exhibit discernible evidence of disturbance except for the stumps of remote pine logging operations, and retains a sparse mixed growth of pine, hardwood, and shrubs.

Authentication.—While the negative results on the hilltop on the hospital grounds do not conclusively exclude the possibility that the temporary outpost may have occupied this hilltop, they definitely do not afford any confirmation.

Interpretation.—Adequate consideration of this forgotten and unidentified outpost required extensive review of the War of 1812 in the gulf region. The early phases of this war were fought in the north. British operations in North America prior to the fall of Napoleon in the spring of 1814 had been desultory, but the pacification of the continent released large naval and military forces which could be diverted to the American contest. However, practically ever since the close of the Revolution, British intrigue among the Indians had been responsible for much of the continuous friction along the western frontier, which culminated in the Creek War of 1813–14. Fortunately for the United States, the Creek military power was crushed by General Andrew Jackson's opportune victory over the Red Stick partisans at the battle of Tohopeka or Horseshoe Bend, on March 27, 1814, before British plans for an intensive campaign in the south could develop. On instructions from the administration, Jackson later returned to Fort Jackson to meet with those Creek leaders who had not fled to Spanish soil in July, and imposed a treaty on them, accepted on August 10, calculated to keep them not only militarily impotent, but through large cessions of land along the frontiers, to reduce their opportunities for Spanish contact, and also serve as indemnity.

After the affair at Tohopeka, Jackson proceeded with his army to the Hickory Ground at the confluence of the rivers, where Fort Jackson was later constructed, without encountering any hostiles en route. While organized resistance was broken, the surviving Red Sticks retained their obsession when Jackson summoned the hostiles to come in and unconditionally surrender. Most of those who obeyed were those who had been friendly allies, and believed they had nothing to fear from a later negotiated general peace. The inveterate hostiles soon began to drift southward by various routes to a fancied security in Spanish Florida, stimulated not only by the anticipated harsh terms of the peace, but fearful of the vindictiveness of their tribesmen who blamed them for the misfortunes experienced by the tribe. It appears that before the imposition of the treaty, the larger bands had begun to leave the vicinity of the Hickory Ground. Information on the emigration of these bands is meager. While their departure may initially have been a simultaneous movement en masse, Woodward (1939, p. 44) said the bands separated before reaching Florida. Most appear to have moved overland south to the waters of the Sepulga and Conecuh Rivers before selecting a site for extended residence. Tatum (1898, p. 157) related that Colonel Benton encountered a sizable group on Hane's Island in the Alabama River. Since their provision stores had been destroyed in the war, they were faced with starvation, and as a consequence of physical weakness their progress was slow. Their numbers were said to include bands representative of eight Tallapoosa towns.

About mid-June, an American from Pensacola reported to General Flournoy at Bay St. Louis, the presence of a British vessel, the *Orpheus*, off the mouth of the Apalachicola River, from which a large store of small arms had been distributed to the Indians. Rumors of the presence of a British party near the mouth of the Apalachicola River first came to the attention of Hawkins at the Agency early in June. It is probable that their arrival may actually have occurred late in May. By mid-June this news was confirmed, and Hawkins further learned that talks had already been despatched to the Indians of Coweta and Kasita inviting them down to receive munitions, and the starving bands adjacent to the Conecuh and Yellow Water Rivers had been invited to come to the Apalachicola for material assistance and subsistence. A report that a fortification (in later years to be known as the Negro Fort) was under erection near the Forbes store for the storage of the arms and munitions being discharged from the vessels there was also received (A. I., vol. 1, pp. 859–860). One of the muskets from this source fell into General Jackson's hands before he left the treaty ground, and, as soon as this business was settled, he proceeded to Mobile.

Later in the summer, Jean Lafitte delivered to the Louisiana authorities an anonymous letter from Havana directed to a New Orleans address, which had been intercepted by one of his vessels. This related that a British expedition organized in Bermuda had briefly touched at Havana. It consisted of a military force under Lieut. Col. Edward Nicolls, transported in two sloops of war, the *Hermes* and the *Caron*, besides smaller vessels. Permission had been sought of the Captain General of Cuba to land at Pensacola, which although refused, they nevertheless declared an intention to disregard. The informant further stated that some time earlier, the brig *Orpheus* had landed arms and some officers at Apalachicola, to secure Creek support for later operations against Mobile and New Orleans (Latour, 1816, p. 117).

About August 26, 1814, a force of royal marines commanded by Lieut. Col. Edward Nicolls was landed from a small British fleet at Pensacola, without opposition from the Spanish authorities (Latour, 1816, pp. v, xxiv), and immediately occupied the fortifications. Nicolls sent invitations to the various refugee bands in the vicinity, inviting the warriors to come to Pensacola and prepare to participate in his future operations. This invitation appeared to halt them in their progress towards the Apalachicola, and depositing their women and children in secluded camps adjacent to the Yellow Water and Choctawhatchee Rivers, the warriors, to the number of several hundred, were soon seen on the streets of Pensacola. Here, clad in British uniforms, they were issued arms, and instructed in military exercises by Captain Woodbine. Both Francis and McQueen were identified among their number. These Indian auxiliaries participated in the joint land and naval British attack of September 12, 1814, on the recently strengthened Fort Bowyer on Mobile Point, which was decisively repulsed. As soon as General Jackson was adequately reinforced he undertook to dislodge the British from Pensacola. In a lightning stroke from Mobile he readily captured and occupied that city from November 3 to 11. His presence caused the British with their Indian allies to hastily evacuate the fortifications, and depart by sea for the post on the lower Apalachicola. It is probable that the warriors of both Francis and McQueen were among the evacuees.

Divining that the main British effort would be directed against New Orleans, Jackson left for that place early in December. Insufficient space only permits mention without detail of the appearance of the augmented and formidable British expedition off Lake Borgne on December 10, of their landing, or of their disastrous repulse by Jackson's force on January 8, 1815. We can only mention the presence of Colonel Nicolls with the expedition, including the small fleet that had participated in his earlier operations. The British retreat from Louisiana was completed by January 19. Not to be diverted from their purpose of an American campaign, their fleet sailed to Mobile, where by a second assault they effected the capture of Fort Bowyer on February 11, but before they had opportunity to press this advantage, news of the peace effected by the Treaty of Ghent (signed December 24) was received on the fleet February 13. The fleet and the main British expeditionary force remained near the mouth of Mobile Bay until nearly the end of March. Colonel Nicolls, however, returned to his post without participating in this operation, and devoted his attention to the strengthening of the "British Post on the Apalachicola." He was accompanied by several hundred Negroes from Pensacola, Mobile, and New Orleans, who had been enticed to leave their owners.

Subsequent reports indicated that Admiral Cochrane disapproved of the removal of the Spanish Negroes, and actually sent an officer to Pensacola, who, with a Spanish counterpart from that place, went to the Apalachicola and attempted to persuade the Spanish Negroes to return to their masters. Since coercion could not be employed, few if any could be persuaded. It was later reported that most of those from the United States were taken either to Nova Scotia or Trinidad (H. Doc. 65: 16 C.–1: 44).

Just before Jackson's departure from Mobile on November 22 for the defense of New Orleans, he ordered (Bassett, 1927, vol. 2, p. 100) Major Blue of the 39th Regiment, with a large mixed force to dislodge the Red Sticks from their hidden camps in the vicinity of the Yellow Water and Choctawhatchee Rivers. Little is known of this campaign, as none of Blue's reports are known to survive. This force departed from Fort Montgomery in December and the campaign was completed during this month. The force penetrated into Florida and surprised several Red Stick camps, and number of their occupants were killed or captured, but from the account of Dr. Holmes it is uncertain whether it penetrated to the Choctawhatchee River. Blue learned that a large Red Stick party was again sheltered under the walls of Fort Barrancas, and penetrated Pensacola to effect their capture, but his approach was discovered, and the Indians took shelter on British merchant vessels in the bay (Pickett, n. d.). General McIntosh received a report that Blue surprised a camp situated on an island situated in an unnamed river (Miller, 1858, vol. 1, p. 438).

The extent to which the British forces operating before New Orleans were accompanied by Red Sticks is not known. Since Colonel Nicolls himself participated in the campaign, and the little squadron at his disposal joined the British fleet, it is highly probable that he was accompanied by some Red Sticks, since a contemporary Seminole of Alachua, Bowlegs, is reported to have been a participant.

At the beginning of the negotiations at Ghent, the British commissioners declared that the sine que non of a treaty would be American acquiescence in the establishment of permanent Indian boundaries, and that the Indians could not be deprived of the lands so delimited, by purchase or otherwise. To this the American commissioners would not assent, but consideration for the Indians figured in the 9th article of the treaty, by which the United States agreed to cease hostilities with all tribes immediately after ratification and restore their lands. Colonel Nicolls expounded this to the refugee Indians who came to his establishment, and assured them this obliged the Americans to restore their lands. His argument only served to delude the hostiles further, since at the time the treaty was ratified, the United States was not at war with the Creeks.

While General Jackson was occupied at Mobile, he ordered Col. Benjamin Hawkins, the Creek Agent, to organize a force of friendly Indians and attack the Apalachicola fort. Late in September, Hawkins sent the Creek chief "Major" Wm. McIntosh and a party of Indians numbering between three and four hundred against the fort, but, for some reason unknown to us, the venture failed (I. A., vol. 1, p. 861). Lacking specific information of the motive that prompted construction of the outpost at the fork, it is reasonable to assume that it was undertaken to prevent surprise from any further force proceeding from the United States.

The outpost does not appear to have been in existence prior to the middle of November 1814, for on November 15 Christian Limbaugh, the assistant agent, related that Power Hanjo (Powas Hadjo of Eufaulee) had sent a spy down the Apalachicola, and while this scout described events at Forbes' store, no mention was made of activities at the fork (Miller, 1858, vol. 1, p. 429). However, on December 2, 1814, Timothy Barnard wrote General Blackshear that on the previous day a red man informed him of the existence of a British post near the fork in addition to that at Forbes' store (Miller, 1858, vol. 1, p. 466). Colonel Hawkins sent a scout to look over the British fort. His report, communicated on January 9, 1815, by Maj. Gen. John McIntosh to Gen. David Blackshear, both of the Georgia militia, affirmed that he had seen 20 white and 40 black soldiers below the fork, at a place about 2 miles east of the little old fields where the Commissioners of Limits encamped. One officer in British uniform commanded. At that time they had neither fort nor ditch (entrenchment), but had one house built and were about to build another. The force had ascended by land, but one boat arrived with their provisions and other stores. Their motive in locating so far back from the river was unexplained (Miller, 1858, vol. 1, p. 440).

Late in November 1814, a force of Georgia militia was mustered in at Fort Hawkins under Major General McIntosh, to reinforce General Jackson. In December Governor Early decided that a punitive expedition against the hostile Seminole was required, and a regiment under General Blackshear was detached from the above force with orders to proceed to Hartford, from which place a direct road was to be opened to a point on the Flint River where a base was to be established. Plans expressed were somewhat nebulous, but it appears that it was expected the force would penetrate as far as the confluence of the rivers, with some possibility of a movement against the British post on the Apalachicola. Major General McIntosh had arranged for a force of 700 Creek warriors under Colonel Hawkins to leave Fort Mitchell about December 9 to cooperate with Blackshear on this expedition. Blackshear arrived on the Flint on January 6, 1815. As a consequence of the news that the British were threatening New Orleans, Major General McIntosh set out for the Tallapoosa River with the main force, where he expected to make boats. On January 6, Governor Early ordered Blackshear to abandon his campaign and follow after McIntosh with his command. Blackshear accordingly began his withdrawal from the Flint on the 14th of January, and by the 21st had proceeded a few miles beyond Hartford. At this point new orders were received from Governor Early, diverting his force to the Atlantic seaboard to defend the Georgia coast against an actual British invasion (Miller, 1858, vol. 1, pp. 422–451). Colonel Hawkins (1815) with his warriors nevertheless descended the Flint River, but does not appear to have proceeded below a point he designated as "115 mile camp," a position he occupied from at least February 12 to 20. From the text of his available letters, it is not evident that he descended to the lower British post on the Apalachicola or even to the confluence, for in his letter of February 12, he wrote as follows:

> The Hostile force below the forks of the River on the East of the Apalachicolo are about 300 who have entrenched themselves have a breastwork abt 4 feet high and one Howitzer and one Cohorn. They have 100 whites 80 blacks and the remainder Indians. . . . There is a Spanish officer among them whos rank I know not from Pensacola, and Hugh McGill with some colored people. He ordered a Half breed my informant, who knew him well, out of their fort as being opposed to him and the British.

This clearly indicates that Hawkins is speaking of the outpost near the confluence rather than to the main post at Prospect Bluff. On February 20 Hawkins further reported that:

> Colonel Nicolls with 200 troops white and black and an assemblage of 500 warriors is just below the forks. They have an entrenched post picketted, with one Howitzer and one Cohorn. The Indians are mostly from the Seminoles of East Florida, and Oketeyocanne, Fowltown and Cheehau within our limits. . . . McQueen and Francis are in uniform. The Col. is gone down today.

It would appear that the presence of this outpost deterred Hawkins from descending the Flint below "115 mile camp."

The position of this camp is obscure. In attempting to form an opinion, it is likely that his (Hawkins, 1916, p. 172) account of the distances between settlements along the Flint is of particular service. In reaching the total of 115 miles, it is improbable that the 0 mile was at the Agency, but more likely was at Timothy Barnard's place, as Barnard was a close associate. Thirteen places are listed as below this, to and including Chickasawhatchee Creek, the latter at a distance of 94 miles below Barnard's. The distance from Chickasawhatchee Creek to James Burges' place is given as 100 miles, an obviously glaring error, as the distance is actually about 21 miles. However, since on this point the printed text and original script are in agreement, the error must be ascribed to a slip of Hawkins rather than to the copying typist. If to the previous mileage total of 94 there be added 21, this gives a new total of 115 miles. As a consequence it is concluded that the "115 mile camp" was in the vicinity of Burges' Town (q. v.), which at this time was probably abandoned and ruinate. Conversely and with approximate accuracy, Hawkins gave the distance from Burges' place to the fork as 25 miles.

We are unaware of the duration of Hawkins' stop at this point, but he evidently withdrew to Fort Hawkins without descending further. From the latter place on April 21, he (Hawkins, 1815) transmitted to Governor Early the substance of the report of one William Hardridge, whom he had sent, presumably from "115 mile camp," with a communication to Colonel Nicolls at the lower British post. It is likely that the purpose of Hardridge's mission was to communicate news of the Treaty of Ghent. Hardridge arrived at Prospect Bluff on February 26, to learn that Nicolls had "gone to sea to see the Admirals" about 6 days before, leaving that post in command of Captain Ross. Hardridge related that he had been within the British fort and had seen all their works, and nearly all the runaway Negroes as well. He further reported that the departure time of the British was uncertain, as they had not yet received orders to embark. Hardridge departed on the 30th, probably referring to the month of March (see also Pound, 1951, p. 238).

As late as March 10, 1815, a date which suggests that Nicolls was eluding Hardridge, Nicolls held a council with 30 chiefs at the British fort at the confluence of the *Chatutouchee* and Flint Rivers, at which was drafted a memorial to King George IV on behalf of the Indians, which detailed their wretched condition and implored British aid against both Americans and Spanish, in view of their loyalty to the British. Furthermore, in it, Francis or Hillis Hadjo, the noted Red Stick leader, was designated as a delegate to personally present the memorial to the Crown. This document was subsequently printed in contemporary London newspapers (U. S. Cong., H. Doc. 65; 16 C.–1:45).

On March 19 Hawkins further transmitted to Nicolls a copy of an official Washington newspaper which reprinted orders from Admirals Cochrane and Cockburn for British evacuation (F. R., vol. 4, p. 549). In his reply of April 28, Nicolls defiantly declared that the contents of an American newspaper could not be taken as authority for a British officer, and impudently declared that the chiefs associated with him had ordered all Americans to desist from communicating with the Creeks or entering into their territory, and stated that according to the terms of the Treaty of Ghent, the Indian chiefs associated with him demanded that their territories as they existed in 1811 be restored to them. Nicolls' last saucy communication to Hawkins was dated from the British post as late as May 12, 1815, and while his departure occurred shortly thereafter, its exact date is unknown.

Early in May, a British deserter from the Apalachicola fort, who had left that place a month before, was picked up in Mobile. He deposed that although news of the treaty, presumably through official British channels, had just reached that post a few days before his departure, the distribution of arms and ammunition to the Indians nevertheless continued unabated.

As already stated, we are not aware of the exact date when Colonel Nicolls and the British force evacuated the fort, which was left in good order, well supplied with arms and munitions, and reportedly in the custody of Wm. Hambly, late of the Forbes' store, who had received a commission from Nicolls. These lavish supplies were to be distributed to the Indians for their use and benefit. Its occupation by Indians and Negroes quickly caused it to become a vexatious frontier problem which was dramatically solved in the following year. Francis accompanied Nicolls on his departure, and both were soon in London. Nicolls submitted to the Ministry a defensive and offensive treaty with the Creeks, which it declined to receive (Boyd, 1937, p. 76).

The outpost at the fork was apparently confused in American minds with the fort on the lower river as late as 1816. Thus on April 23 of that year, General Jackson wrote to Governor Zuñiga at Pensacola, complaining of the presence of many runaways among the 250 Negroes reputed to be at the fort near the junction of the Chattahoochee and Flint Rivers, and desired to be informed by whose authority it was built. Zuñiga's reply of May 26, 1816, has already been mentioned, which indicates that by this date it no longer existed. Further contemporaneous mention has not been encountered.

At the time of Jackson's 1818 campaign in Florida, he became involved with both Francis and McQueen, consequently it is certain that the women and children of these leaders eluded Blue's force, and in some unrecorded manner were reunited with their warriors east of the Apalachicola.

Francis was carried to England in the spring of 1815, and was brought back to Florida some time during the winter of 1817–18. During his absence frontier turbulence, radiating from near the Apalachicola River continued, only to cease with the campaign of 1818, sometimes called the first Seminole War. It is readily apparent that the pattern of hostilities and friction established during the Creek War of 1813–14 was maintained until 1818, hence the Creek War was essentially continued, despite the Treaty of Fort Jackson, until 1818.

ELLICOTT'S OBSERVATORY

In preparation for the survey of the international boundary between Spanish East Florida and that portion of the United States which embraced the State of Georgia, Andrew Ellicott, United States member of the boundary commission created by the Treaty of San Lorenzo, established a field observatory near the fork of the Apalachicola River, for the astronomical determination of the position of the western extremity of the boundary.

Location.—From the data provided by Ellicott (see under *Authentication*), it is possible to plot the approximate position of his observatory on sheet 1 of the 1:12,000 scale aerial mosaic map (1949) of the Jim Woodruff Reservoir. It was situated in the vicinity of Pearl Street, probably to the westward thereof, between High and King Streets, in the town of Chattahoochee, Gadsden County, Fla.

Identification.—From the account on page 115 of the "Journal of Andrew Ellicott, Late Commissioner on behalf of the United States during Part of the Year 1796, the Years 1797, 1798, 1799, and part of the Year 1800, for Determining the Boundary between the United States and the Possessions of His Catholic Majesty in America . . . ." Philadelphia, 1803.

Condition.—Occupation having been temporary, the site is obliterated. It is now a modern residential subdivision.

Authentication.—The bluff top was occupied as an observatory from which both the requisite astronomical observations for the determination of its latitude could be made, and the bearing of the point of land at the fork of the river ascertained.

Ellicott (p. 115) relates that

> The ground about the mouth of the Flint River not being fit for camping on, in consequence thereof, we pitched on the nearest commanding eminence, from which with the least labour in falling timber, the junction of the rivers might be discovered: . . . . From the observatory a vista was opened to give us a view of the point of land between the rivers.

He measured the angle of the line from the observatory to the point with the meridian of the observatory, which was found to be 45°10′19″ W. The latitude of the observatory was determined to be 30°42′0″.4, and the distance to the point, by measurement, as 369 perches (6,088.5 feet). With these data, by the formula for determining the base of a plane right-angled triangle, the point was found to have a latitude higher than the observatory of 260.14 perches, or 42″.4, which added to the latitude of the observatory, gave 30°42′42″.8 as the latitude of the junction of the rivers, the western extremity of the boundary between Georgia and the Spanish territory.

Interpretation.—Although the separate treaties which closed the Revolutionary War were of the same date (Great Britain and the United States, and Great Britain and Spain; September 2, 1783), certain discrepancies in the terms describing the boundary of West Florida soon gave rise to a prolonged controversy between the United States and Spain. While the treaty between Great Britain and the

United States fixed this boundary at the 31st parallel of latitude, a definitive boundary was not described in her treaty with Spain which relinquished Florida to that power. Since the British, during their possession of West Florida had extended its northern limit to 32°26′, Spain contended with the United States for the latter. Until the signing of the Treaty of San Lorenzo (Pinckney-Godoy Treaty) between the United States and Spain on October 27, 1795, Spain had enjoyed through actual occupation of this territory, the better part of the argument. Among the terms of the treaty was Spanish acceptance of the boundary at 31°, with agreement for an early survey of the line, and a stipulation that each party would restrain the Indians within their territory from depredations in that of the other. The treaty, furthermore, stated that from the intersection of the 31st parallel with the middle of the Chattahoochee River, the line was to extend down the middle of that river to its junction with the Flint River, thence straight to the head of the St. Mary's River, thence down the middle of that stream to the Atlantic Ocean.

Although the treaty was promptly ratified by the contracting parties in 1796, the Spanish moved slowly to comply. President Washington appointed Andrew Ellicott United States Commissioner in May 1796, who in mid-September set out for Natchez, where he arrived late in February 1797. Here he was detained by the dilatory tactics of the Spanish until their evacuation of that post late in March 1798, and it was not until June that the commissioners could begin work on marking the 31st parallel.

In the vicinity of Mobile, the conduct of some Creeks led Ellicott to anticipate future trouble to the surveying party. He consequently asked Col. Benjamin Hawkins to join him at Pensacola, and arrange for a joint Creek-Spanish council at that place. Ellicott arrived at Pensacola in April 1799, and the desired council with the Indians was held in late April and early May, the Indians being given assurance that the project did not involve any designs on their lands. Although the participating Indians appeared reassured, Ellicott had reason to believe that the Spanish governor otherwise informed some emissaries from Tallassee in the Upper Creeks. Leaving the surveying party on the Conecuh River to extend the line east, Ellicott and Hawkins parted company at Pensacola, from which Ellicott departed by vessel on July 2 to meet the surveying party on the Chattahoochee River.

His vessel entered St. George's Sound on July 4, but it was not until the 13th of July they could find the river mouth, up which they sailed and warped for 2 days, when he transferred to a canoe. Horses were finally secured, and the trip to the surveyors' camp on the river ended on July 25. Here Ellicott was occupied with astronomical observations until August 19. He found Timothy Barnard at the camp before him, much concerned over the threatening attitude of the Indians, with whom a conference was held on August 15, at which they were apparently satisfied. Nevertheless, Colonel Hawkins was sent for.

Ellicott and the Spanish commissioner dropped down the river on August 23 and selected a position near the mouth of the Flint River, where they remained until the 18th of September, when the requisite observations were completed. The party unfortunately had been weakened by the dismissal of the Spanish component of the military escort and several of the laborers some weeks before, and a party of friendly Indians who had volunteered to protect them had also been dismissed. Nevertheless they planned to run the line to the head of the St. Mary's River. Colonel Hawkins arrived on September 14 and entertained the opinion that the Indian situation was favorable. It was consequently planned to resume work on the line on the 20th of September. However, on the morning of the 17th a message was received from "Indian Willy" (probably one of the Perrymans, likely William), who resided on the Chattahoochee, that a hostile party was approaching. These arrived at nightfall, and molested the surveying party throughout the night. Plans for running the East Florida line were consequently abandoned, and it was decided to leave the spot. Most of the party, including the Spanish members, made their way overland to St. Marks, and later to St. Mary's, Ga. Ellicott with his instruments and papers left Hawkins behind and boarded a small vessel in their service; he dropped down the river and reached St. Marks on October 7, departing thence on the voyage to St. Mary's on the 18th of October, which was reached December 9. There he found his companions who had made the overland journey.

Although Ellicott did not identify the hostile Indians who interfered with running the East Florida line, he had earlier been apprehensive of trouble from the Tame King of Tallassee in the Upper Creeks. According to Captain Hugh Young in 1818 (Young, 1934–35, p. 84), it was Kenhagee of the Mikasukies who lead the hostiles. However, Colonel Hawkins, who remained briefly at the forks after the departure of Ellicott, verified that there were associated with the Mikasukies in this episode partisans of the Tame King or Hopoithle Mico (Hoboithle) of Tallassee. He related (Hawkins, 1916, p. 417),

> that banditti from Tallassee, conjointly with the Simanolees, insulted the commissioners of Spain and the United States at their encampment on the Spanish side of the line near the confluence of Flint and Chattahoochee. I called on the chief [*Note:* Presumably the Tame King], being myself a witness to the fact, to punish immediately the leader and his associates in an examplary manner; they sentenced the leader to be roped and whiped, his property destroyed, and his associates whiped; and this sentence was carried into effect on him and three of his associates by 72 warriors, under directions of their great chief, and in presence of Mr. Cornell, one of my assistants. . . .

UNITED STATES ARSENAL

The structural nucleus of the Florida State Hospital is a group of substantial buildings erected in the wilderness by the United States Government to serve as an arsenal for the storage of arms and ammunition near the perimeter of the country.

Location.—The 4-acre brick-walled arsenal enclosure is located in nearly the center of the NE¼ of the NE¼ of section 33, fractional township 4, range 6 north and west (pl. 54). It is situated on the grounds of the Florida State Hospital, and lies to the north of U. S. Highway 90 in the town of Chattahoochee, Gadsden County, Fla.

Identification.—Ample documentary material, together with the survival in excellent condition of many of the buildings of the original installation, render the identification positive.

Ownership.—By *An Act of Congress* approved December 15, 1870, the buildings and grounds of the Chattahoochee Arsenal were granted and donated to the Board of Internal Improvement of the State of Florida for educational purposes. The ground donated comprised the east ½ of the NE and SE quarters of section 33, whole sections 34 and 35, and fractional sections 25, 26, 27, 28, and 29, lying just south of the Georgia-Florida line, all included in fractional township 4, range 6 north and west (pl. 54). The area transferred amounted to 1,664¾ acres. Through some oversight, the trustees of the Internal Improvement Fund did not send a receipt to the War Department for the donated land until December 18, 1880 (McIntosh, 1904, vol. 2, p. 420). In order to complete the transfer, the trustees in 1903 executed a deed transferring the property to the State of Florida.

Condition.—The absence of any ground plan of the original Arsenal in the National Archives makes it impossible to state with exactitude what buildings of the original installation survive, although it appears that, in some degree, several do. Figure 11 of the quadrangle layout, is adapted from a plat of the buildings of the "Asylum for Indigent Lunatics" (see Cartography Anon. 1897) (State Library) from which have been excluded certain structures known to have been erected subsequent to the donation, which no longer exist. The plat indicates that 13 buildings at that time possessed slate roofs. Since it is known that slate was the roofing material employed in the construction of the Arsenal, which is an unusual material in Florida, it seems reasonably certain these buildings represent the original installation. Nine of the buildings were erected to face a quadrangle formed in part by their rear walls, the enclosure being completed by a brick wall connecting the several buildings. Externally the sides of the quadrangle measured 425 feet, thus enclosing 4 full acres. The surviving connecting walls are 12 feet high and 30 inches thick. The walls on the east and west sides have been nearly completely removed. These were penetrated by large arched gates at about the center of each side. Four addi-

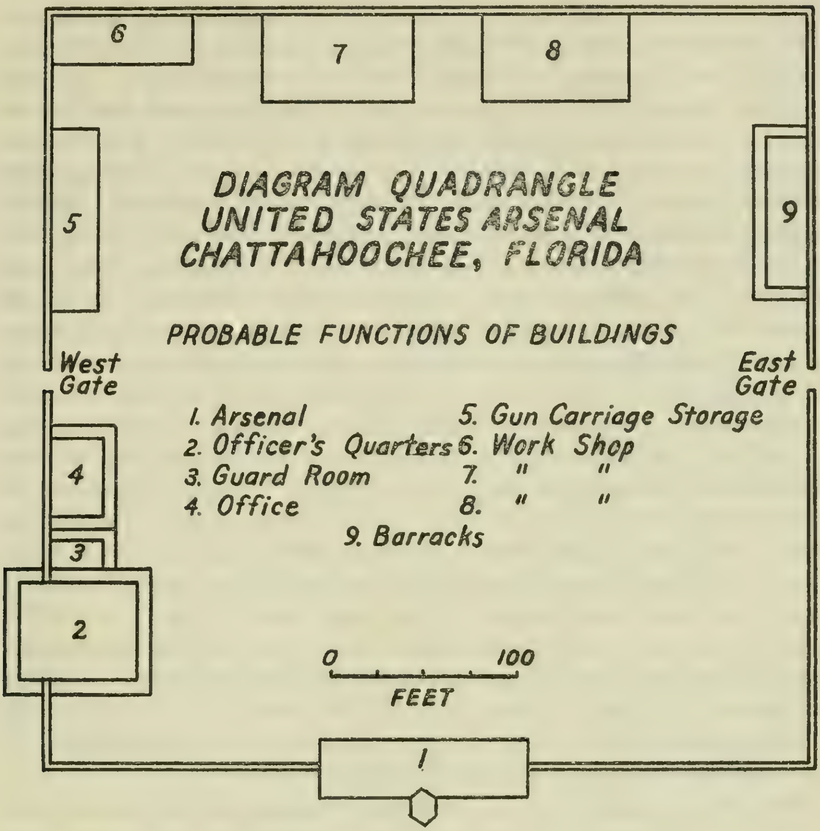
DIAGRAM QUADRANGLE
UNITED STATES ARSENAL
CHATTAHOOCHEE, FLORIDA
PROBABLE FUNCTIONS OF BUILDINGS
1. Arsenal
2. Officer's Quarters
3. Guard Room
4. Office
5. Gun Carriage Storage
6. Work Shop
7. " "
8. " "
9. Barracks
West Gate
East Gate
1
2
3
4
5
6
7
8
9
0
100
FEET

FIGURE 11.—Reconstructed ground plan of Arsenal quadrangle.

tional buildings existed to the east of the quadrangle, of which only one, the enclosed, vaulted magazine, survives. This is located about 1,300 feet due east from the southeast corner of the quadrangle.

Were it not for the large trees now growing on the slope to the south of the quadrangle, it would be possible to secure the same view (looking northeast) of the Arsenal quadrangle as was sketched by Castelnau (1842) in 1837–38 (pl. 55), as the structures he shows survive with minimal alteration. He spoke of the Arsenal as "a rather fine building built of lilac colored brick . . . surrounded by quite a high wall."

From comments by the officers supervising construction, it is evident that the group of buildings were enclosed with the definite idea of facilitating their defense, although nothing in their construction appears to have been done to further the activities of any defenders.

It appears of interest to undertake to identify the purpose for which the quadrangle buildings were constructed. The building at the center of the south side with the tower was the first completed, and appears to have constituted the Arsenal proper (pl. 51, *d*). It was probably intended for the storage of small arms and accouterments. Nothing has been found to indicate the purpose of the tower, and whether its height is sufficient to serve the purpose of a "shot-tower" is unknown. South of the west gate was the two-story office, still serving this function, and still farther south was the two-story officers' quarters entirely surrounded by a two-story "piazza." The west side of this building projects from the enclosure. This building has long been utilized as the residence of the hospital superintendent. It would appear that in the final stages of the construction program, the space between the quarters and the office was enclosed, probably to serve as the guard room. This group of buildings survives with minimal alterations, although those portions of the enclosing wall crossing the "piazza" of the quarters have been removed, and a gate has been cut in the south wall west of the tower building. The building north of the west gate was originally of one story, built to serve for the storage of gun carriages. Three workshops were built along the north walls. These have disappeared as such, but portions of their north walls, at least, have been incorporated in the large ward building for white females that now occupies the entire north side of the quadrangle. The building situated to the north of the east gate, now the dormitory for senile white females, was probably the barracks. All surviving buildings are in repair and remain in use as an important part of the building complex of the Florida State Hospital.

Of the four extramural buildings, only the large magazine survives (pl. 52, *b*). The vaulted magazine, with walls 5 feet thick, had originally but a single entrance on the south, and, at a distance of 20 feet, was entirely surrounded by a brick wall about 15 feet high, pierced only by a single gate on the south. The original hip roof of the magazine has been replaced by a flat roof of concrete, and a shed roof has been erected over the space from the enclosing wall to the magazine wall, and new entrances have been cut on the north and east sides of the enclosing wall, which, in addition, is now also pierced by numerous windows. It is presumed that the three buildings that have disappeared were the small magazine, the so-called laboratory, and the sutler's store.

The grounds of the Florida State Hospital are open to the public.

Authentication.—As previously indicated, there is ample authentication.

Interpretation.—Although published material relating to this installation is meager, considerable documentary material, consisting of fragmentary correspondence exchanged between the Chief of Ordnance and the officers supervising construction, together with monthly post returns for a few years, is preserved in the War Department records in the National Archives, upon which we have drawn.

It has not been ascertained when and where the initiative for this project arose. It is certain that the resolution offered to the Legislative Council of the Territory on January 31, 1832, by Mr. Nuttall, represents a development in rather than the conception of the project. The resolution was directed to the Territorial Delegate in Congress (Joseph M. White), in which he was requested to urge the passage of a law to establish an Arsenal in the Territory, as a measure highly important to the peace and safety of the country (Florida, MS., p. 59 (1832)). A sense of urgency is indicated by the inclusion in the resolution of a request to the Acting Governor, James D. Westcott, Jr., to transmit the resolution to the delegate by the next mail. It apparently received his immediate approval and was promptly dispatched. Mr. White apparently did not attempt to effect this by passage of a Special Act of Congress, such as that which in 1828 had authorized the Mount Vernon Arsenal in Alabama, but secured inclusion of an item "For an arsenal in Florida, twenty thousand dollars," in the "Appropriation for the support of the Army for 1832," approved April 5, 1832 (United States Laws, 1835: VIII, ch. 650, p. 535).

That the project may actually have had its inception outside of Florida is suggested by the circumstance that on May 3, 1831, Col. George Bomford, Chief of Ordnance, ordered Bvt. 2d Lieut. John Hills, then of the 4th Artillery, to proceed to Middle Florida and survey the country between the Suwannee and Apalachicola Rivers for a site suitable for an ordnance depot. While in Florida on this mission, he evidently discussed his errand with various leading citizens, and reported to Bomford on July 1 from Tallahassee, that there existed:

> a very general desire that the General Government shall locate an Ordnance Depot in some central position in Florida, and not leave them dependent in the event of a foreign war or domestic insurrection on the Arsenals at Mount Vernon or Augusta for military supplies.

In his report prepared after his return to Washington, dated September 1, he related that he had examined the Suwannee, Aucilla, St. Marks, Ochlockonee, and Apalachicola Rivers, and concluded that the status of the Territory required establishment of an arsenal on the Apalachicola on an adequate scale. He recommended a principal arsenal instead of a depot, equipped to repair small arms and artillery carriages, and to prepare ammunition.

After his return to Washington, Hills was transferred to the Ordnance Service. In a letter to Bomford, dated January 7, 1832, he asked for leave pending Congressional action (on the Florida project) before his departure for Florida, which suggests that those in the Ordnance Bureau were confident of a favorable outcome. On April

23 Hills was ordered to return to Florida to select a site for the arsenal, which, agreeable to his earlier recommendation, was to be on either the east or west bank of the Apalachicola, somewhere between the fork and Sweet Water Creek. His report was to present the reasons for his choice, in order that his selection might be submitted for the sanction of the War Department, whereupon instructions to reserve the land selected could be sent to the General Land Office, and he would be supplied with funds, plans, and instructions to supervise construction. For reasons unknown, Hills was detained in Washington until midsummer, when on July 19 he received new orders of the same tenor. Two days before he had been promoted to Captain of Ordnance. In October he was given the additional responsibility of surveying the banks of the river from the Gulf to Fort Mitchell for suitable building stone.

Hills reported the selection of the east ½ of the NE and SE quarters of section 33, and whole sections 34 and 35, of township 4, range 6 north and west, then in the public domain. This was accordingly reserved for the arsenal by Presidential order dated November 3, 1832, and the Tallahassee Land Office advised to withdraw not more than 1,500 acres including this tract from the market (pl. 54). The western boundary of the arsenal reservation was situated about a mile east of the river, the intervening territory being already in private hands. In 1833 Hills recommended the purchase of this intervening land as a health measure in order to preserve the trees and forestall a projected townsite development. He also recommended that the fractional sections 25, 26, 27, 28 and 29, lying just south of the Georgia line be added to the arsenal reservation. Sections 26, 27, and part of 28 are contiguous to the original reservation (pl. 54). While the purchase recommendations were rejected, a further Presidential order dated October 30, 1833, added these fractional sections to the reservation.

The small adjacent community had been given the name of Mount Vernon in 1832 when it was given a post office. Its consequence had diminished when the crossing place of the Apalachicola River on the Tallahassee-Pensacola mail route was diverted to Aspalaga. This inconvenienced Hills in the receipt of official mail, and through his representations made early in 1833, the river crossing of the mail route was restored to Mount Vernon. The identical name for the arsenal sites in Florida and Alabama soon caused Hills further annoyance through misdelivery of mail, and in 1834 he claimed that he was instrumental in persuading the Legislative Council to change the name of the village to Chattahoochee when it was incorporated in 1834.

Hills' assignment would probably not have been unduly onerous had the site been adjacent to populous territory. But in 1832 the banks of the Apalachicola were sparsely settled, adequate quantities of suitable building materials were not available on the local market, nor was sufficient number of skilled artisans available in the Territory. The only significant advantage possessed by the site was available river transportation on the Apalachicola River. At that time the War Department appeared reluctant to effect its construction by contract, but preferred the employment of day labor under the supervision of an officer. It appears that practically all the skilled labor was secured in the North, and no slave labor was utilized. Middle Florida was booming in this period, and the labor imported was quickly lured away by higher wages on private work. Another factor was the enforced summer idleness during the 3-month period when it was believed inimical to work under the summer sun. As a consequence, the labor force had to be recruited afresh each fall. While most imported artisans appear to have been single or alone, Hills in his last year, imported a group of immigrant English bricklayers who arrived with their families. It was necessary to provide temporary barracks for the workmen. Considering the time, the place, and the circumstances, the construction of such a substantial group of buildings in a near wilderness must be regarded as quite a feat.

When Hills' reconnaissance of the navigable river failed to reveal the presence of suitable building stone along the banks, it was decided to effect construction with locally made brick. Hills did not receive the ground plan or the plans for the initial buildings to be constructed until late in November 1832. Bids were invited for the supply of brick, lumber, and lime, and early in 1833 contracts were let for furnishing these materials, those for the first two being let locally.

In January 1833 the site for the quadrangle was selected and the position of the future buildings determined. Authority for the construction of a wharf at the steamboat landing was secured, and an access easement from the proprietor of the land was given to the Government.

Hills had hoped that subsequent to the modest initial appropriation larger sums would be forthcoming, so that, presuming the materials could be assembled during 1833, the project might be well advanced toward completion in 1834. Aside from disappointment in the amount of available funds, delays in brick deliveries were equally vexatious.

The brick contractor was a substantial citizen (Benjamin Chaires) of Tallahassee, but without experience in brickmaking. He set up his plant in the river bottom nearby, where he expected to produce 350,000 brick monthly, to be made from alluvial clay. The product of his first firing was defective, and after considerable experimentation, it was ascertained that the clay required heavy tempering with sand. Deliveries of acceptable brick consequently did not begin until early in 1834, after more than 8 months' delay. Deliveries did not keep up with schedule, and it was not until the end of that year that the total delivered attained a million and a half.

Early in February 1834, Hills informed Bomford that construction of the authorized permanent buildings would begin as soon as he received a level. However, by July 4 of the same year he reported that the walls of the arsenal and the tower had been carried to the water table, the whole being covered with a tight temporary roof, and the bricklayers discharged for the season. At the first of the following year he reported the arrival of the immigrant English bricklayers, and stated that delivery of the granite pieces from Maine, for sills, caps, and coping had been completed.

Captain Hills died, from causes unknown to us, on February 25, 1835. As soon as this news reached the Ordnance Bureau, 2d Lieut. Charles Petigru of the 4th Artillery, was ordered to take charge of the post, where he arrived on April 13. He reported that Hills' death had hardly influenced the progress of the work.

As soon as oriented, Petigru expressed the opinion that he saw no reason to continue to amass materials instead of employing available means to make the place immediately serviceable. Apparently Bomford concurred in this view, as in June he wrote that since the buildings not already authorized may never be built, their allotted space in the quadrangle is to be filled by connecting walls. However, the season early became sickly, and by early May there had been one death and the workmen became frightened. In late July Petigru suggested construction of a temporary cantonment for the workmen in a high pine grove, 3 or 4 miles to the southeast. At this time several of the workmen and their children were sick, as was also Petigru himself. Petigru's death occurred on October 6, 1835. Available data do not permit an appraisal of the progress while under Petigru's direction. In one feature, however, he left his impress. Approval was given to his suggestion that the plans for the officers' quarters be altered so as to extend the "piazza" entirely around the building, but carrying the enclosing wall across the "piazza" so as to not reduce the defensibility of the enclosure.

First Lieut. John Williamson of the 1st Artillery was selected to succeed Petigru, and arrived at the arsenal November 28, 1835. Williamson encountered considerable difficulty in retaining his artisans in the face of the high wages being paid in the boom towns of Apalachicola and St. Joseph, and he requested authority to let out the bricklaying and carpentry on contract but this was disapproved by the bureau. The work appears to have made steady progress, however, under his supervision, as on October 6, 1837, he stated that the work had progressed sufficiently so that the place would be available at short notice for the purpose intended, and that the remaining buildings would be completed during the course of the winter.

He appears to have been too optimistic, as relatively large sums were required for construction through 1838 and 1839; the latter year can probably be regarded as the practical year of completion. During the years from 1832 to 1839 inclusive, there had been spent on the arsenal project a total of $226,932.50.

The Ordnance Bureau apparently did not take seriously the suggestion that the arsenal could be utilized on short notice as a depot, since during the Creek War of 1836, in which the principal operations were adjacent to the Chattahoochee River, the military forces in the field depended upon supplies wholly received from either the arsenal at Augusta, Ga., or that at Mount Vernon, Ala.

The available records do not indicate just when the installation began to function as an arsenal, although Williamson, now promoted to a captaincy, remained in command until September 1841, when he was transferred to the Charleston depot.

Scattering monthly post returns for the period from October 1840 to August 1845 survive. These reveal that in addition to the commanding officer, the command consisted of not more than one man from the Ordnance Service, with, for varying periods, small detachments from the 1st, 6th, 3d, and 8th Regiments of Infantry, the whole force not exceeding 15 men.

Williamson was the last commissioned officer in command. He was succeeded by Richard J. Young, military storekeeper, who received his discharge in December 1842, and was succeeded by John M. Galt, of the same grade, who continued at the post at least as late as August 1845, when the series of reports is interrupted.

Some insight into contemporary arsenal administration may be gained from the Ordnance Bureau report for 1849, which related that this department of the Army had a total of 28 arsenals or ordnance depots under its administration, of which 4 were classed as arsenals of construction, the remainder being arsenals of deposit and repairs. It is inferred that the Apalachicola installation fell in the latter category. The report further related that at each arsenal was stationed a detachment of enlisted men for guard and police duty, and such mechanical duty as their skill permitted them to perform. They were uniformed, armed, equipped, and instructed in military exercises, and performed the same duties as garrisons at other posts. When not on duty as soldiers, they worked in the shops. For higher orders of skill, regular artisans were employed at a daily wage (Message, Sen. Doc. 1, 31 C.–1, 1849, p. 360).

No data on the size of the garrison maintained at the Apalachicola Arsenal in the interval from 1845 until 1851 have been encountered. From 1851 to 1861 the size evidently did not exceed four men. When the ordnance depot at St. Augustine was discontinued in 1855, the stores there were removed to the nearest arsenal (probably Augusta) and the military storekeeper (name unknown) was transferred to the Apalachicola Arsenal (Message, Sen. Doc. 1, 34 C.–1, 1855, p. 546).

That there was little activity at the arsenal is indicated by a resolution adopted at the 6th session of the General Assembly of Florida (1852–53), requesting the congressional delegation to secure from the United States Government the privilege of depositing and preserving the arms of the State in the Arsenal (Florida, 1853, p. 175).

Confirmation of this opinion is afforded by another resolution adopted by the General Assembly at its 9th session (1858–59), the preamble of which recited:

> Whereas the U. S. Arsenal . . . contains buildings and work shops of sufficient capacity for the construction of gun-carriages, wagons, etc., and is capable of being made an arsenal of construction, . . . and the said arsenal having laid inoperative for many years at a general cost to the United States, the congressional delegation is requested to endeavour to have the Apalachicola Arsenal made an arsenal of construction . . . . [Florida, 1859, p. 151.]

As the tension of 1860–61 became critical, Senators Yulee and Mallory of Florida, on January 2, 1861, sent a joint communication to Acting Secretary of War J. Holt, requesting a report on the ordnance and ordnance stores at military posts in Florida. Holt had married Yulee's wife's sister. Holt referred the communication to Capt. Wm. Maynadier, temporarily in charge of ordnance, who supplied, under date of January 3, a rather full report. By this time Holt had become alert, and retained the information for his own use, and on January 9 advised the senators that the "interests of the service forbid that the information you ask should be made public." (Reb. Rec., ser. 1, vol. 1, p. 349). At the close of the war, when Yulee was a prisoner, this letter was used against him by this selfsame Holt, then Judge Advocate General of the Army, as justification for a proposed courtmartial for Yulee (Yulee, 1909, p. 13).

In replying to Holt, Maynadier reported:

> There is only one arsenal in the State of Florida, and that is of deposit only. It is called Apalachicola Arsenal and is situated near the town of Chattahoochee at the junction of the Flint and Chattahoochee Rivers. The arms, ammunition etc. now at that post, are one 6 pounder iron gun and carriage, with 326 shot and canisters for same, 57 flint-lock muskets, 5,122 pounds of powder, 173,476 cartridges for small arms, and a small quantity of different kinds of accouterments. (Reb. Rec., ser. 1, vol. 1, p. 349.)

There is no substantiation for the statement that the Arsenal contained 500,000 rounds of musket cartridges, 300,000 rounds of rifle cartridges and 50,000 pounds of powder, made by Davis (1913, p. 71) and Brevard (1925, vol. 2, p. 56).

Shortly after the dispatch of the Yulee-Mallory letter to Holt, the former, on January 5, 1861, wrote Joseph Finegan at Tallahassee that:

> the immediately important thing to be done is the occupation of the forts and arsenals in Florida. The arsenal at Chattahoochee should be looked to, and that at once, to prevent removal of arms. [Reb. Rec., ser. 1, vol. 1, p. 442.]

Unless telegraphically dispatched, it does not appear likely that the time factor was sufficient for this communication to have influenced Governor M. S. Perry in his decision to issue secret orders to the commander of the Quincy guards, a militia force, whose name is variously given as Colonel Dunn (Reb. Rec., ser. 1, vol. 1, p. 332) or Colonel Duryea (Davis, 1913, p. 71). He was instructed:

> to raise a company of picked men and proceed to the Apalachicola River and seize and possess the arsenal, now in possession of the General Government, and retain same subject to my orders.

He was further authorized to call out the 7th Regiment of Florida militia to retain occupation.

The force appeared before the arsenal early on the morning of January 6. Ordnance Sgt. Edwin Powell, who was in charge, reported afterward to Captain Maynadier on the same date from both Chattahoochee and Quincy, that Florida troops took possession of the arsenal and all public property at 7 a. m., in spite of all he could do to prevent it. He refused delivery of the keys to the magazine and armory, but on the insistence of the Governor, the Commanding Officer compelled their delivery. Powell was not in position to resist this coup, as Davis (1913, p. 71) says that his detachment consisted of only three men. Despite the seizure, Powell and his force were not imprisoned. From Quincy he asked Maynadier for instructions regarding disposition of himself and men. They went to St. Augustine, presumably in compliance with orders, where, on February 6, 1861, they were discharged from the Army by order of the Secretary of War.

We are not aware of the length of time this Florida force remained at the arsenal, but it was likely brief, as there was no threat that it would be retaken soon.

At about this time, seizure of the forts at Pensacola was planned by the cooperation of troops from Florida, Alabama, and Mississippi. Governor Perry had ordered two companies of militia from Middle Florida, one from Leon County under Captain Perry A. Amaker, the other from Jefferson County under Captain James Patton Anderson (who finally rose to Major Generalship in the Confederate Army), to Pensacola to participate in this operation. Failing to get steamboat transportation at St. Marks, they returned to Tallahassee and started overland for Pensacola via Quincy and Chattahoochee, both companies under command of Captain Anderson. On arrival at the

Arsenal, they were detained there for 10 days by order of the Governor. By that time the projected early attack on Fort Pickens had been postponed, and the men were dismissed (Dickison, 1899, p. 15). A few weeks later these same companies, with eight others from Middle Florida were mobilized at the arsenal for a Camp of Instruction. Here, on April 5, 1861, they were mustered into the Confederate service for 12 months as the First Florida Infantry. Captain James Patton Anderson was elected Colonel, and the regiment immediately set out for Pensacola, where they arrived on April 12. In the spring of 1862, the State organized the Sixth Florida Infantry at Chattahoochee, which was mustered into the Confederate service with Jesse J. Finley as Colonel. It was immediately ordered to report to Gen. Kirby Smith at Knoxville, Tenn. (Jennings, 1903, pp. 38, 153).

Regarding the arsenal as a prize of war, Governor John Milton recommended to both the 11th and 12th sessions of the General Assembly (Florida, 1861, p. 8; 1863, p. 32), that the arsenal be converted by the State to serve the purposes of a military academy, a state arsenal, and an arsenal of construction. For the first he pointed out that it would afford ample room to accommodate the faculty and 300 cadets, together with a beautiful parade ground embraced in a suitable enclosure. For the last two, he noted that it possessed nine forges, then idle. When reiterating his suggestion, he pointed out that its nonuse exposed it to dilapidation and expense for costly repairs. He also mentioned that at one time permission had been granted for its temporary occupation by Confederate forces on application of the Commanding Officer of the military district. As an alternative, he suggested its transfer for a consideration to the Confederate States for a Military Institute or arsenal of construction. The assembly disregarded his proposal.

At the close of the war, the arsenal was transferred from the Ordnance Bureau to the Freedman's Bureau in 1866.

In the subsequent years there was much disorder in Florida as in other Southern States, and local jails were either lacking or inadequate for the confinement of sentenced prisoners. In his message to the 2d session of the Assembly of the State of Florida, Governor Harrison Reed (Florida, 1869, p. 15) related that in the previous September, when in Washington, he had in person applied to the Secretary of War and to the Freedman's Bureau, for permission to use the United States Arsenal property at Chattahoochee for a state penitentiary, and that his request was granted. He stated it would provide accommodations for 300 convicts. At the time he wrote, 9 convicts had been introduced, and a guard of 19 men employed.

Meanwhile the Chief of Ordnance (Message, H. Doc. 1, 41 C.–2, 1869: 440) recommended that certain small arsenals (including both that at Chattahoochee and the one at Mount Vernon, Ala.) that had ceased to be necessary or useful, be sold, and suggested that congressional authorization to this end be secured. As already noted, a bill was introduced into the second session of the 41st Congress to donate the Chattahoochee Arsenal to the State of Florida for educational purposes; this was approved December 15, 1870.

The condition of the arsenal in 1869 when the installation was loaned to the State, was described by A. Martin, Colonel Commanding the Penitentiary (Florida, 1870, appendix, p. 90) in his first report. He painted a dismal picture. He stated that

> for years before the late rebellion, little or no repairs had been done to the buildings. During the war it was occupied by the Confederate Army and fell into bad repair, and met with little better treatment in United States hands. When the buildings came into possession of the State they were dilapidated, the windows and shutters gone, doors pulled off hinges and carried to different places in the neighborhood, the lead [sic] pulled off nearly all roofs, and the buildings little better than ruins.

His efforts to check this disintegration included placing new sills under all the porches, repairing the barracks, reglazing all windows except those of the workshop, cleaning up the grounds, and trimming the trees. Furthermore, a dam was constructed across Mosquito Creek, one-half mile from the enclosure, from which it was estimated 200 horsepower could be secured.

With the donation of the arsenal to the State, the Extra Session of the Legislature in 1870, passed *An Act to Establish and Maintain a State Prison*, approved January 26, 1871, which directed the Governor through the Adjutant General, to establish a State prison for the safekeeping and punishment of convicted criminals, of which the oversight and control was vested in the Commissioners of Public Institutions. None of the buildings as received provided facilities for confinement, and in his report for 1871, Adjutant General John Varnum spoke of the novelty of keeping from 75 to 100 prisoners within the enclosure without a single cell (Florida, 1872, appendix, p. 65).

Since the purpose of our narrative is to sketch the history of the arsenal, there is no need to allude to the obvious limitations of space that prevent consideration of the later unhappy history of this installation as a prison, and of its gradual metamorphosis into a hospital for the insane.

CAMP RECOVERY

Camp Recovery was the name given to a temporary and seasonal encampment established on an elevated area adjacent to Fort Scott, for the accommodation of convalescents from the fevers to which the garrison of that post was subject, whose intensity gave that post the reputation of being one of the most insalubrious positions occupied by the army.

Location.—Since Camp Recovery is not shown on the plat of the 1820 land survey, the site cannot be identified with precision. The location of the gun monument that commemorates the spot must have been determined by local tradition. The monument is situated in a small remnant of timber, probably of second growth if the site was once cleared for a camp, of about one-quarter acre in extent, occupying the crest of a small knoll. In a direct line, the site is about 2.5 miles southeast from Fort Scott, well back from the edge of the high bluffs that delimit the bottoms on the east side of the Flint River. It lies in land lot 323 of District 20 of the original Early County, now part of Decatur County, Ga. It may be reached by going 0.4 of a mile on the road running southeastward from Recovery Cross Roads, and walking southwestward across a field for 0.1 mile. It is about 0.4 of a mile northeast of the abandoned railroad station known as Recovery, on the Climax-River Junction branch of the Atlantic Coast Line.

Identification.—No confirmatory or substantiating documentary evidence has been discovered by those in charge of the appropriate sections of the Library of Congress, the National Archives, the Georgia Department of Archives and History, and the Georgia Historical Commission.

Condition.—Although the small grove in which the gun monument sits is entirely neglected, its isolated position has afforded considerable protection from fire. It has not been subjected to abuse or vandalism, although through weathering, parts of the inscription have become difficult to decipher.

Ownership.—The site and surrounding fields are the property of N. L. Sellers of Recovery, who purchased it from N. C. and Leroy Johns of the same community. Leroy Johns stated that their deed of conveyance did not contain any stipulations or reservations relating to the site. Since its alienation from the public domain of Georgia, the site subsequently has never been held in public ownership.

Authentication.—The available information relates to the erection of the monument, rather than to the site of the camp itself. However it is locally reported that a bullet mold, belt buckles, and similar artifacts have been discovered on the site. Depressions suggestive of graves are not currently discernible, although it is locally believed that there were from 30 to 50 burials. If interments were made without coffins, it is not likely that depressions over the graves would have occurred. Leroy Johns stated that his father acquired the site about 1900, and cleared the fields about the knoll, leaving the small grove. He said that traces of what were regarded as graves could be discerned at that time, but he does not recall their location with relation to the monument.

Interpretation.—In design, material, and dimensions, the monument appears identical with those that mark the sites of Fort Hughes and Fort Scott. The description of one will serve for all (pl. 51, *b*).

These consist of a monolithic granite base about 4 feet square and 20 inches high, the upper edges of which are beveled. In the center of the block is a 32-pound cannon standing upright on its breach, the muzzle capped by a cannon ball of larger diameter.

The following inscription is incised on the top of the granite base of the Camp Recovery monument:

> Erected on the site of Camp Recovery near which are buried officers and soldiers of the United States Army who died during the Indian Wars in the Flint and Chattahoochee river country, 1817 to 1821.

Through the courtesy of the War Records Branch of the National Archives (Schatz, 1953) the following information on gun-monuments near Bainbridge, Ga., has been secured from the records of the Office of the Quartermaster General:

> On February 20, 1882, the Honorable H. G. Turner, M. C., forwarded to the Secretary of War a letter from Judge Maston O'Neill calling attention to the neglected condition of the graves of United States soldiers buried at Camp Recovery near Fort Scott, Georgia. Additional correspondence relative to the erection of a suitable monument over the grave of "Fifer" Hughes and other soldiers of the Indian War of 1818 buried near Bainbridge, Georgia was exchanged during the spring and summer of 1882 and the matter was referred to the Quartermaster General.
>
> On October 10, 1882 the Quartermaster General informed the Secretary of War that Lieutenant J. D. Hoskins had visited Bainbridge, Georgia, and reported on the condition of the burial sites in the vicinity. On the basis of this inspection the Quartermaster General advised against the acquisition of the burial grounds by the Federal government and recommended that because of the prevalence of forest fires in the surrounding woods, the graves be marked with suitable gun-monuments. Accordingly the Secretary of War on October 13, 1882 approved the transfer of three 32 pound cannons from Fort Clinch, Florida, and these guns together with stone bases obtained from Stone Mountain, Georgia were erected on the burial sites of Bainbridge, Fort Scott and Camp Recovery, Georgia at a cost of $971.52.
>
> The exact date of this operation has not been determined. The work was under the supervision of James Gall, civil engineer in the employ of the Quartermaster Department, who was ordered to attend to the erection of the monument on February 2, 1883 and was in Bainbridge, Georgia in mid-February of that year. Mr. Gall returned to Bainbridge several months later and on June 3, 1883 reported on his inspection of all three monuments which had "recently" been erected.

From the same source there is quoted the following paragraph, derived from a letter of the Adjutant General dated June 28, 1883, to the Quartermaster General (Refer. A. G. O. ltrs rec'd 2330–1883; E. B. 37/9):

> 1) The soldiers buried at Fort Scott, Georgia and Camp Recovery undoubtedly belonged to the 4th and 7th Regiments of the United States Infantry which were

stationed there at different times between the establishment of the post in October 1817 and its abandonment in November 1821. Camp Recovery must have been a summer camp for Fort Scott which was in an unhealthy location and which had a high death rate of 8 or 10 soldiers per month.

The remaining sections of this letter refer to Colonel Arbuckle's action at Fowl Town; the massacre of Lieut. R. W. Scott's party on the Apalachicola River; and any lost in General Jackson's Seminole campaign of 1818.

On the basis of this information the Quartermaster Department formulated the inscriptions to be placed on the gun-monuments.

Greater reliance is placed in the dates subsequently mentioned. The circumstances that lead to the establishment of this extra-mural invalid camp are briefly described in a report of Surg. Thomas Lawson, then Surgeon of the 7th Regiment, dated from Fort Scott, January 1, 1821, which is quoted from Forry (1840, p. 26):

> About the 15th of September (1820), as the sick-list (at Fort Scott) increased daily in numbers, and the diseases in malignancy, it was deemed advisable that a portion of our invalids should be removed beyond the influence of the cantonment's atmosphere.
>
> Accordingly on the 18th (Sept. 1820), such as were capable of enduring the unavoidable fatigue, and whose complaints were likely to be benefitted by a change of air, in number about 70, were removed under the charge of one of the Assistant Surgeons to a high pine ridge to the southeast of, and three miles distant from this place [i. e. Fort Scott] and the river. But scarcely were the tents pitched before a heavy rain came on, which, continuing five or six days, occasioned the immediate dissolution of several, and produced irreparable injury to all the sick. Many of those affected with intermitting fever, were also attacked with dysentery or diarrhoea, and *vice versa*. Nay, the diseases generally became blended the one with the other.
>
> As the weather soon grew mild, this little colony began to revive, one or two dropping off occasionally, until the 22d of October, when the sudden fall of the thermometer laid all prostrate, some of them never more to rise. This was the most fatal period. Every convalescent relapsed with his old, or contracted some new disease; and this state of things continued with but little melioration, until the 23d November, when the establishment was broken up, and the surviving sick brought back to the cantonment.

No specific statement of the reoccupation of this camp in 1821 has been encountered, but Forry (1840, p. 29), in discussing the third quarter spoke of the deaths at "Fort Scott and neighboring encampments" as numbering 18. Neither is the significance of the employment of the word "encampment" in the plural known, nor whether this alludes to Camp Recovery, with or without additional camps.

OKLAFUNEE OR COXPUR

While an Indian settlement is known to have occupied this site in the late 18th century, nothing is known of the period of occupancy, or of the origin of its occupants.

Location.—An Indian town lying at the point of land where Four Mile Creek discharges into the Flint River, on the east side of the latter. It was located in fractional land lots 359 and 360, District No. 20, of the original Early County, of which the present Decatur County, Ga., is a subdivision.

Identification.—The only known representation or mention of this town is its appearance on the Purcell-Stuart map of 1778 (pl. 53). On the legend of this map it is described as "situated on the East side of the Flint River, Consisting of 24 Houses, a square, 13 Families and 32 Gunmen. The head man's name is Iwanke."

Condition.—Obliterated, now in woodland and a recent "old field" with a heavy growth of broomsedge and young pine.

Authentication.—During 1950 A. R. Kelly conducted some exploratory excavations on the site. In a personal communication he stated that all sherds found were of scratched or brushed Lower Creek (Chattahoochee) pottery, more or less contemporary with the known occupation. Contact with contemporary Spanish was indicated by the discovery of sherds of green glazed *tinajas.*

Interpretation.—Occupation would appear to have been for a relatively brief period, as the Holms-Purcell expedition of 1778 furnished the only contemporary mention of the town. David Holms (1778), during his transit of North Florida in 1778 to recruit Indian support for the repulse of an anticipated attack on St. Augustine by the revolted colonists, made a side trip to it on August 3 to 4 from Burges', to give a "talk" urging local participation. He related that on his arrival at the town he found the British colors flying, and that a drum was beaten until he took his seat in the King's cabin on the square where the black drink was served.

FOWL TOWN 1

The name "Tutalosi Talofa" or "Fowl Town" has been applied with specifically and generally (in the plural) to several individual villages in southwestern Georgia and Middle Florida during the early 19th century; in the latter case, they had individual specific names. The name "Fowl Town" is a translation of Tutalosi Talofa, meaning fowl or chicken town in Muskogee. The earliest mention of this name as applied to a town is afforded by Hawkins (1848, p. 65) in 1799, who recorded it as a subsidiary village of Hitchiti, located on a creek of that name which is tributary to Kitch-o-foo-nee (Kinchafoonee), which in turn joins the Muckalee to flow into the Flint River. It was located in present Lee County, Ga. The name is not known to have totemic significance, and probably was expressive of ownership of an abundant stock of this species of bird. The then abandoned site was noted in 1818 by Captain Hugh Young (1934–35, No. 3, p. 134), who passed by it in determining the route to be followed by Jackson's army between Fort Early and Fort Scott. Of it he wrote:

> Fowl Creek is three miles from Connards Creek (=Kinnard=Kinchafoonee) . . . . On the south side are the remains of an ancient and very large town, large trees growing on innumerable little mounds disposed with some degree of regularity, on which the houses were probably built.

Location.—In this sketch we are discussing a village located on an unrecorded and unidentified site on the east side of the Flint River, in present Decatur County, Ga., which flourished during the first and second decades of the 19th century. Local tradition does not preserve remembrance of its situation. The opinion is tentatively entertained that it was situated in District 20 adjacent to Fowltown swamp. Unfortunately the field notebook of the survey of this district is lost, and examination of the original plats of land lots numbered 245, 246, 275, 276, 285, 286, 315, 316, and 326 in which the swamp lies, in Survey Book EEE does not reveal any notation that a village site on those lots was evident at the time of their survey in June of 1820. In the 2½-year interval since the destruction of the town, either traces of the village had disappeared or the site lay away from the lines bounding these lots. It is unlikely that it was on the site of the present-day village of similar name (Fowlstown) in the same county. Accounts of the military operations focusing at the town described it as situated in close proximity to a large swamp, and situated about 3 miles from Fort Hughes, with no mention of an intervening stream. The swamp is likely that on the course of Four Mile Creek, which still bears this name. The dimensions of the original swamp have been greatly reduced through drainage, but the original limits are conspicuously marked by a distinct terrace. While no artifact-bearing sites have been discovered to the north of the swamp, Roland Bowers of Bainbridge describes a site to the south of the swamp in the north part of lot 354 where sherds were formerly abundant. During the night approach to the town during the first raid, the troops apparently were not accompanied by wagons, and may have crossed the river at Fort Scott to approach the town from the south. In the second raid they brought two wagons, and probably because of this encumbrance were obliged to cross the river at Burges'. In the meager accounts of neither is Four Mile Creek mentioned as an obstacle, which it surely would have been had an attempt been made to cross it with the wagons. It therefore appears that the circumstances favor the view that the village lay to the north of the swamp.

Identification.—Unidentified to date.

Condition.—Obliterated. Arbuckle's devastation was evidently thorough.

Interpretation.—Despite present inability to identify the site, it requires extensive discussion by reason of its relation to Fort Scott.

The towns of Tutalosi Talofa and Mikasuky are regarded as colonies derived from parent Hitchiti-speaking towns (Hitchiti and Chiaha) situated on the Chattahoochee River. The circumstance of a common language, proximity, and relative isolation from the mother towns likely promoted intimacy among the leading men.

It is not known when the town on Kinchafoonee Creek moved down the Flint River to the present Decatur County. Conceivably this might have been the consequence of the combined influence of the Mikasukies and of William Augustus Bowles, exerted during the second appearance of the latter between 1799 and 1803, nevertheless later cited allusions made by Hawkins in 1814 more plausibly suggest that the removal occurred either in 1813 or 1814, as a consequence of the defeat of the Red Stick partisans from that town and Okatiokina.

A further confusing element in our consideration of this village site is introduced by the circumstance that on the itinerary insert on the Purcell-Stuart map of 1778 describing the Pensacola-St. Augustine path, Purcell stated that the path crossed a creek called Tootooloosa Hopunga. This occurred about 3 miles along the Harmonia branch from the point where the main path bifurcated to traverse the Apalachee Old Fields, or a total of 10½ miles from Burges' settlement. This word is undoubtedly identical with Tutalosi, and this application antedates by several decades the earliest known allusion to the Tutalosi Talofa under consideration, which was in the same neighborhood. The stream thus crossed is unnamed on the map, but Purcell represented it as a western tributary of the upper waters of the west branch of the Weethlakutchee or Little Big River (Little River of today), which is tentatively identified as a branch (unnamed on the map consulted) flowing from the west near the headwaters of Little Attapulgus Creek. The "Hopunga" might be derived from the Creek "Hopúnketu" (Loughridge and Hodge, 1890), meaning to destroy, spoil, or break up, which could allude to the destruction of a former town in the general vicinity. If so, no knowledge of its existence has come down to us.

Although the two councils from which resulted the indemnifying cession known as the Forbes' Purchase were attended by representatives from most of the Lower Creek and Seminole towns, certain substitutions in the representatives of these two towns at the council of August 22, 1804, held at Chackweithle (=Achackweithle=Prospect Bluff), are significant of such intimacy. Thus Hopoy Hacho (=Hopay Hadjo=Semothly) of Tutolosa Talofa was the great speaker of the Seminole, and signed the document of cession both for himself as speaker and on behalf of the present although abstaining Capixty Mico (=Cappichimico=Kenhagee=King Hadjo?) of

Mikasuky; for himself personally it was signed by the lesser Efau Tustenuggee of Mikasuky. At this council, Tutalosa Talofa was also represented by Hothlepoio Tustenuggee, and at another of August 3, 1806, at St. Marks, by Ninyomahta Emathla (Rec., case Colin Mitchell vs. the United States, 1831, pp. 61, 63).

The exhortations of the Prophet among the Upper Creeks produced a sympathetic reaction among some of the Seminole. Colonel Hawkins reported, in October 1813, that about 150 Mikasukys, joined by some Uchee, and Creek of Tuttallossee, had crossed the Chattahoochee and had given out their intention to join the Prophet's party for a combined attack on Coweta and subsequently on the whites. They were met by a strong party of friendly Indians, and, defeated, returned home (I. A., vol. 1, pp. 852, 857). This seems to have been their only attempt to participate in the Creek War. However they came under the influence of Colonel Nicolls, as Colonel Hawkins reported on June 21, 1814, that the Indians of Tuttallosee and O-he-te-yoc-on-nee (=Okatiokina) had been given four kegs of cartridges of 100 pounds each, some guns, short rifles, etc. (I. A. vol. 1, p. 859.) Hawkins had some hopes that they could be won over, as in a letter of 1814 addressed to several Creek chiefs he urged the latter to invite the Seminole chiefs to Coweta; and said further: "Let the chiefs of Tuttallosee and OketeYocanne come also . . . they left us, we did not drive them away" (I. A., vol. 1, p. 845).

This would appear to allude to their removal to south Georgia.

By 1816 their attitude was openly hostile, probably from realization that the land they occupied in southwestern Georgia had been ceded by the treaty of Fort Jackson, and the fomentation of their resentment by Arbuthnot. On May 9 of that year, Col. D. L. Clinch wrote General Gaines from Fort Gaines, relating the arrival of Little Prince of Broken Arrow and Wm. Hambly, who had made a hasty return from the lower river, where they had gone with the intention of holding a council with the Seminole chiefs, to persuade them to undertake measures against the old fort of Nicolls (Negro Fort). Their haste was occasioned by their pursuit by a party of Tuttulosus, who had the intention of capturing Little Prince and burning Hambly. The Mikasukys were reported to share this hostile attitude with them (H. Doc. 122, 15 C.–2: 17, 21).

This attitude of the town was doubtless intensified by an influx of Red Stick refugees who appear to have been accorded a hospitable reception. The name of the chief prior to this influx is unknown, although he may have been the "Chitta-Fanna-Chula" or old Snake Bone, whom Woodward (1859, p. 52) appears to confuse with the individual next mentioned. In any event, one of the immigrant Red Sticks, whose name is variously given as Inimathlo, Innematla, Inhinoothlo, Ene-he-munt-by, or Eneheemathla, but better known during his subsequent Florida residence as "Neamathla," and later as Eneah Emathla, soon attained the ascendancy in the town. It may be mentioned that the title of Nehemathla is given to no less than three of the Indian signers to the memorial to King George IV at the council held by Colonel Nicolls at the British fort at the confluence of the Chatutouchee and Flint Rivers, March 10, 1815. In this document they were distinguished as 1st, 2d, and 3d, of whom the first might be the individual discussed. Unfortunately the list does not give the towns they represented. Another prominent Red Stick refugee was Homathlemico, a former chief of Autesse, who after the destruction of Fowl Town, moved to Mikasuky. He allegedly was leader of the party that massacred Lieutenant Scott's detachment. He was finally lured on board McKeever's vessel at St. Marks, and hanged there, in company with Francis who was captured at the same time, by General Jackson's order. Still another chief named Chenubby was also resident at Tutalosi, but it cannot be said whether he was native of the place, or was the Natchez chief who lived in the Talladega country at the turn of the century. Another, given as the second chief, was Tustunnuggee Hajo.

During 1816–17, their only opportunity to manifest hostility was through cattle stealing raids on the Georgia frontiers, in one of which they were reported to have secured a drove of one hundred head (I. A., vol. 2, pp. 159).

The administration believed that after the destruction of the Negro Fort in July 1816, the Indians would be sufficiently overawed to justify evacuation of Camp Crawford (Fort Scott), which was effected in December. To this the Georgia authorities gave vigorous protest, and in deference to their plea, the post was reoccupied in the following spring. Subsequent to the reoccupation, the Indian village was always referred to as Fowl Town.

Sometime in the late summer, Major Twiggs, then in command at Fort Scott, was warned by the chief of Fowl Town not to cut timber on the east side of the Flint River, or to turn cattle or horses loose on that side. Twiggs also related that Eneheemathla added that since he had nothing to do with giving away land at Fort Jackson, he did not regard that treaty as binding on him or his people, nor would they remove as a consequence except by force. He was also told that if ever a United States detachment crossed the Flint they would be resisted by force (I. A., vol. 2, p. 159).

Major Twiggs also described how William Perryman, a halfbreed, had requested him to call a meeting of the chiefs of the villages on the lower river, which, he was informed, was desired for the purpose of expressing friendship to the United States and their desire to remain at peace. In accordance with the invitation, there assembled at Fort Scott, on August 4, 1817, the first and second men of Conchatti

(=Ekanachatte), Choconicklo and Ochesee (=Ocheese), with some other warriors. The meeting was delayed awaiting the arrival of Eneheemathla, who did not appear. Twiggs later learned that the real reason the Indians asked for the council was to give them an opportunity to flog Eneheemathla in Twiggs' presence, for his depredations on the Georgia frontier which he had alleged were the activity of the other towns (H. Rep. 72: 16 C.–1: 61).

Late in November the force at Fort Scott was strengthened by the arrival of the first brigade and the presence of General Gaines. Gaines had the idea of forcing the Indians off the ceded land, and sent a runner to Fowl Town with a message to the chief, asking him to pay a visit to the fort. The chief replied to the invitation saying that he had already said to the Commanding Officer all he had to say, and refused to come.

To overcome this reluctance, General Gaines on November 20, sent a force of 250 men under Major Twiggs against Fowl Town, with orders to bring Eneheemathla and his warriors to Fort Scott, and in the case of resistance to treat them as enemies, but in any case to carefully avoid injuring women and children. Twiggs' force, marching all night, arrived at the town before daybreak. The troops were posted in line of battle, with the intention of surrounding the town. Their presence was detected, and the Indians fled from before the companies of Major Montgomery and Captain Birch posted on the right, and fired on the companies of Captains Allison and Bee on the left. The troops fired only one round. As soon as the Indians discovered the superiority of Twiggs' force, they fled into the neighboring swamp, but not before four warriors and a woman were slain, the latter while attempting to pass the line of the troops in the darkness. One prisoner was taken. Twiggs remained in possession of the town until daylight, when he returned to Fort Scott without casualties. Other than three or four horses, no booty was taken, although a scarlet British uniform coat with epaulettes was found in Eneheemathla's house. No injury was done to the buildings of the town or to the stocks of provisions (H. Rep. 72; 16 C.–1: 63).

A few days later (November 23), General Gaines sent a second force of 300 men from the 7th Infantry under Lieut. Col. Arbuckle against Fowl Town, for the purpose of foraging. Evidently the Indians were forewarned of the movement, as the town appeared deserted. Captain McIntosh was ordered to approach the town by a route different from that taken by the remainder of the force, to take prisoners if possible, and to search the buildings for corn. While the two wagons were being loaded with corn from the Indian cribs, about 60 Indians emerged from the swamp and began a brisk fire. The attack lasted from 15 to 20 minutes, during which time one soldier was killed and two wounded (see Fort Hughes herein). The Indians finally withdrew to the swamp with unknown loss, which was estimated at from 5 to 8 (M. A., vol. 1, p. 747). All the corn the wagons could carry was brought away. Before crossing the river, the force was halted for 4 or 5 days, where it was occupied in the construction of a small picket work. The expectation that sufficient provisions to succor Fort Scott would be secured by the raid was not realized, as those secured were all consumed while the troops were at this point.

Subsequent to General Gaines' departure, Lieut. Col. Arbuckle led a third raid against Fowl Town, crossing the Flint 14 miles above Fort Scott on January 4, 1818. This likely was at the site of the former Fort Hughes. On arriving at Fowl Town, the place was found to be abandoned. The houses were set afire and the place was entirely consumed. The next day Arbuckle's force pushed on to Attapulgus, which was probably found to have been abandoned also, as no mention was made of any action at that point. The Fowl Town fugitives and their livestock were reported to have withdrawn to the eastward of the Ochlockonee River (M. A., vol. 1, p. 695).

It would appear that when Eneheemathla and his band abandoned this Fowl Town, they withdrew to a location east of Mikasuky and the lake of that name. This may have been the Indian town which occupied the site of Monticello, Jefferson County, Fla. Thus Adj. Gen. Robert Butler, when reporting on the action with the Indians near Mikasuky in 1818, in the course of General Jackson's Seminole campaign, related that on April 2, General Gaines with a large command, including "General" McIntosh's Indians, was ordered to pass the lake and attack the other towns to the eastward, which he found abandoned, but in the square of Fowl Town was found a red pole decorated with scalps taken within the last 6 months. McIntosh's Indians had a brush with a party of hostiles in the vicinity, killing one Negro and securing three prisoners, on one of whom was found a coat which had belonged to a member of Lieutenant Scott's ill-fated command (M. A., vol. 1, p. 703).

The subsequent movements of Eneheemathla are obscure until he and two other chiefs called on General Jackson after the cession of Florida, at Pensacola in 1821. It is noteworthy that although at this time he furnished Jackson with a list of the Indian towns in Florida, he did not identify his own. He participated in the Moultrie Creek council of September 18, 1823, at which time and place he was elected chief of the Florida Indians. He was also assigned a personal reservation in Middle Florida. In the town list submitted to the United States Commissioners at that place, he gave the name of his town as Cohowofooche. Its existence was discovered by John Lee Williams, in his 1823 explorations in Middle Florida for the capital site. He gave its name as Cahellahatchee, and reported it as located 2 miles north of the lake of Tallahassee (Lake Lafayette), as rather new, with

180 inhabitants of whom 70 were warriors, and described Neamathla as chief of the then six Florida Fowl Towns (Williams, 1824). These six towns were likely fragmentation groups dispersed from the town broken up by McIntosh's warriors.

Neamathla did not remain long enough in Florida to occupy the small reservation assigned him at the Moultrie Creek council. Soon after Governor Duval virtually deposed him from the chieftancy late in 1824, he returned to the Nation. Since his Florida associations had been with Hitchiti speakers, he is probably the individual given in the 1833 census of the lower towns as Enehar Amarthlar, principal chief of Hitchetee (U. S. Congr., Sen. Doc. 512; Correspondence, 1834–35, 23 C.–1; 4: 336). Here he gained considerable influence, and under the name of Enea Mathla was one of the principal leaders in the Creek uprising of 1836, in opposition to removal to the west of the Mississippi. He was then credited with 80 years. He was captured by Gen. T. S. Woodward in June 1836, during General Jesup's operations in Alabama, and was marched to Montgomery in irons for embarkation to the west.

On Neamathla's abandonment of Florida it is not known whether he was accompanied by any of the Fowl Town Indians. Some, at least, appear to have removed to the west side of the upper St. Johns, outside of the peninsular reservation, since Motte (1953) in 1837 stated that the council of the Cherokee delegation with Sam Jones and 300 Mikasuky was held at a place called Fowl Town, the location of which was not indicated. The memorial of the Cherokee delegation related that this council was held on Chickasawhatchee Creek. On the Mackay and Blake map of 1839, this stream is shown as entering the St. Johns from the west just below where that river flows out of Lake Poinsett. The same map gives the name To-to-lose Hatchee to the third stream entering the St. Johns from the west below Lake Poinsett. The former appears to be the stream named Taylor Creek on the 1919 Orange County soil survey map, while that of the latter is corrupted into Tootoosahatchie. It is likely the name "Totolosehatchee" commemorates the location of the last Tutalosi town in Florida.

FORT HUGHES

Fort Hughes was a temporary dependency of Fort Scott.

Location.—The plat of fractional lot 225 of District 15 of the original Early County, Ga., which was surveyed on December 10, 1819 (Survey Book DDD, Surveyor-General Department) locates Fort Hughes about the center of the southern extremity of this lot, with the southern extremity of the fort extending southwardly across the line into adjacent lot 226. There is a discrepancy in the recorded length of the south line of lot 225, i. e., from the river to the southeast corner. According to the plat this distance is 6.50 chains; according to the field notebook, 8.50 chains. The latter gives 2.15 chains as the distance from the southeast corner of the lot to intersection with the fort (pl. 48, *a*, *b*, *d*).

The site is incorporated in Chason Park on the east side of the Flint River in the city of Bainbridge, Ga. It is adjacent to the site of Burges' Town or Puckanawitla, which likely lay to the north and northeast (q. v.). The plat of lot 332 on the west side of the river, shows that the northwest corner of this lot was intersected by the "Jackson trail" to Fort Scott. From where this trail intersected the north line of lot 332, a branch road led east to the west riverbank opposite the fort, indicating that an early ferry landing was located just west of the fort.

Identification.—The land was surveyed such a short interval after the abandonment of this work, that its ruins or traces thereof must have been clearly evident at that time.

Condition.—Obliterated. Chason Park is a grove of live oaks on the riverbank. The gun monument to Fort Hughes is located on the west side of the park (pl. 51, *c*).

Authentication.—From the land survey plat cited. No reports of the discovery of relics on the site have been encountered, nor have any archeological explorations been conducted in the area.

Interpretation.—In the sketch of Fowl Town, the second raid on that place was described. This was undertaken by a detachment of 300 men from the 7th Infantry under the command of Lieut. Col. Arbuckle, which left Fort Scott on November 23, 1817, the object being to secure supplies of cattle, corn, and other provisions for the subsistence of the garrison. During the short skirmish that ensued at the town, one soldier, Aaron Hughes, variously described as a musician, a bugler, and a fifer, was killed and two men wounded. After the wagons were loaded with provisions and the body of the slain man, the force started on its return march, whether pursuing the same or a different route is not known. Neither do we know the reason that induced Lieut. Col. Arbuckle to halt his force on the east side of the Flint River for 4 or 5 days, at a point about 3 miles north of Fowl Town, in order to erect a small picket work, to which was given the name of the slain musician, who was buried nearby. More probably his grave was within the work. The expedition did not afford much relief to the provision situation at Fort Scott, as those secured at Fowl Town were all consumed during the halt (M. A., vol. 1, p. 747).

It is suspected that in going to the site where Fort Hughes was built, Arbuckle was returning to the point where the river had been crossed with the wagons on the outward march. A crossing place must have been chosen that could be reached without troublesome passage of tributary streams after leaving Fort Scott, where the riverbank could be reached without descending bluffs or traversing swamps. The riverbanks on either side at Bainbridge are the situation nearest to Fort Scott where these conditions are satisfied.

On the departure of the main force, a detachment of 40 men under Captain McIntosh was stationed in the blockhouse. It appears that this small post was not occupied for more than 3 weeks, for on December 20, 1817, Lieut. Col. Arbuckle wrote to General Gaines informing him of the recall of the command at Fort Hughes (M. A., vol. 1, p. 690). This post was attacked on December 15 by a force of from two to three hundred Indians. McIntosh's force repulsed these with some injury to the Indians, without having any of their own body killed or wounded (N. W. R., vol. 13, p. 360).

Although Arbuckle alleged that the recall of the command from Fort Hughes was prompted by the difficulty of supplying it, his own situation at Fort Scott was becoming critical, and the undesirability of having his own force unnecessarily scattered was doubtless evident. The raids on Fowl Town had brought the delicate situation in the southeast to a climax, and Indian attacks on the vessels under command of Major Muhlenburg, which were bringing supplies to Fort Scott, were delaying the arrival of bady needed provisions. The gravity of the situation was emphasized by the surprise attack on the small vessel ascending the river, in which was a command of 40 men under Lieut. R. W. Scott, accompanied by seven women, from which only six escaped. The attack occurred a short distance below the fork of the Apalachicola River, on November 30, 1817. These events marked the beginning of the first Seminole War.

The gun monument to Fort Hughes conforms to the type of that at Camp Recovery, which has been described. The incised inscription on the base is as follows:

> This monument marks the site of Fort Hughes and is near the grave of Bugler Hughes of the United States Army who fell in a fight with Indians Nov. 23, 1817.

During the winter of 1953 the gun monument from the site of Fort Scott was removed by direction of the United States Engineers and reerected on the east side of Chason Park.

BURGES' OR BURGESS' TOWN

An independent trader named James Burges occupied this site with his family and dependents in the late 18th century. His arrival may have been responsible for the displacement from the neighborhood of the inhabitants of the Indian village of Puckanawhitla.

Location.—The Purcell-Stuart map of 1778 shows a settlement called Burges' on the east side of the Flint River, at the point where the Pensacola-St. Augustine Road crossed that river (see Ekanachatte herein) (pl. 53). From this point the road passed southeastward to embrace the "Apalachee Old Fields" by two paths, which united at Micasuky (Mikasuky) to the eastward. A close correspondence between the river bends shown on this map with those of a current map, indicates this site is adjacent to the city of Bainbridge, Decatur County, Ga. The plats of fractional lots 223 and 224 which lie north and south of each in Land District 15 of the original Early County, were surveyed on December 10, 1819. Both have the river on their west or north border, which as shown by the plat, is margined by swamp or hammock land. Both of these areas on each plat bear the notation "Old Settlement," with the addition of symbols for buildings to this area of plat 224 (see Survey Book DDD). It would appear that these represent a single area of occupation, probably the debris of the structures at Burges' or of the village of Puckanawhitla. What appears to be an extension of this area of occupancy has been discovered by Frank S. Jones and Roland Bowers of Bainbridge, in the form of fragments of burned clay, on the miniscule fractional lots 177 and 227, which lie north of lots 225 and 223, on the east side of the river. They entertain the opinion that Burges' establishment was directly on the road, and that the river was crossed between lots 177 on the east bank and lot 330 on the west, adjacent to Honey Bee bluff. It is now (1958) the considered opinion of Frank S. Jones and Roland Bowers, that Burges' establishment was most probably situated on the later site of Fort Hughes. This situation on the river is the only place for some distance where high banks approach the stream on either side, making it an eligible site for a ferry crossing (pl. 50, *a*, *b*).

Identification.—Tentative from the map and plats cited.

Condition.—Obliterated.

Authentication.—No authentic artifacts have been discovered, nor have any archeological explorations been conducted on the site.

Interpretation.—There are numerous references to the activities of one Burges, or Burgess, in this general area during the last half of the 18th century, and it is inferred they all refer to one individual, a James Burges. It is inferred this is the individual of the same name, who according to Coulter and Saye (1949), was born in Darien, Ga., in 1737. In 1756 a James Burges accompanied a party of traders into Florida. If he is the same person, he was then 19 years of age. This party penetrated as far as the Indian town of St. Taffeys (Santa Fe), where the Indians, for reasons unknown, became hostile, and the traders were obliged to leave hastily. By advice of the cowkeeper, they returned to Georgia via St. Augustine (J. Blyth, 1906, Depos., Ga. Col. Rec., vol. 7, pp. 427–428).

By 1765 Burges was described as a Florida trader and express rider, with a store at "Puckanawhitla" (Mowat, 1943, p. 25). This place is presumed to be the same as the "Pucknauhitla" described as situated 30 miles above the fork on the Flint River, which sent an unnamed representative to the Lower Creek council called by Col. John Stuart at Fort Apalachee (Fort St. Marks) on September 29, 1764. A location 30 miles above the fork would place it approximately on the site under consideration. However, by 1778 the Indians of this town appear to have emigrated west of the Chattahoochee, as on the Purcell-Stuart map the town of "Pokanaweethly" is shown on the Coosa Old Fields on the Pensacola-St. Augustine road, about midway between Ekanachatte and the Choctawhatchee River.

Burges in later years likely operated with goods secured on credit from Panton, Leslie & Co., and either had several local stores or moved his stock of trading goods from village to village. Thus Taitt in 1772 (Mereness, 1916 a, p. 552) speaks of him as trader in Tamatley, an Indian town on the west side of the Apalachicola River. Gatschet (1900, p. 394) writing much later, said that "Burgess was a white man, who belonged to Yufala of the Lower Creeks, and had a large number of slaves." He also stated that the name Burgess' Town was applied to two towns, the location of which is uncertain. Since Gatschet was writing of Alabama sites, it may be inferred that he considered these as possible Alabama towns. It is reasonably certain, however, that if there were two, one of these must be the settlement on the Flint River under consideration. Further, as already mentioned, on the Purcell-Stuart map of 1778 is found a townsite labeled "Burges's," on the Flint River, which appears to coincide with the Puckanawhitla just mentioned. Assuming that Burges was an enterprising man, it is not unreasonable to expect that he maintained stocks of trading goods in several towns for the convenience of his Indian patrons. Possibly another explanation is afforded by Ellicott (1803, p. 216), who writing of Burges much later, said of him that "agreeably to the Creek custom (he) intermarried with several of their females, who then lived with him." It was not stated whether this harem was concentrated in one town or not. But considering the situation usually described, domestic harmony would have been unlikely unless the wives were sisters. Since practical considerations, rather than romance usually regulated these plural establishments, it may be suspected that Burges probably had a wife established in each town where he traded, so that on arrival at any one, he could immediately enjoy all domestic comfort and delight, and be promptly posted on all the current intrigues as well.

Most references to Burges' activities noted, relate to events of the last decade of the 18th century, when the international boundary was unsettled and Spanish influence above the 31st parallel was strong. He was evidently involved with Bowles during the latter's first sojourn in this area (see 1789, under Ekanachatte, p. 253). The most important episode involving Burges or his Indian henchmen, was a raid in the St. Marys River region in the spring of 1793, in which the store at Traders Hill, belonging to R. Seagrove, brother of James Seagrove, the U. S. Indian Agent, was robbed and two whites slain. Earlier, James Seagrove had given authority to Jack or John Kinnard, a Hitchiti halfbreed who lived on the Kinchafoonee, to supervise the behavior of the Indians nearby. At Seagrove's request, Kinnard obliged Burges to appear before him, and ordered surrender of the stolen goods. On his appearance, Burges alleged that the project was promoted by three Indians from Pensacola who had been incited by the governor of that place and Panton, to go out to this area and take hair. While admitting they were joined by Indians from his town, and included his brother-in-law among their number, he denied that his son was in the party. He further declared that the murders had been committed by the Pensacola Indians, who returned, bearing the plunder, in advance of the others. This they had hidden, and when those of Burgess' Town returned, they either would not, or could not, deliver it (I. A. vol. 1, pp. 374, 389).

At this time Burges appears to have been willing to serve either Spanish or American interests, depending on the reward. Thus, in a letter written to the Baron de Carondelet in 1796, Panton expresses regret that Burges was not retained in the Spanish service for lack of a small payment, and that as a consequence of this oversight he was then in the service of the American government (Corbitt, 1940, p. 264). It is surmised that this switch was the consequence of the rejection of a memorial Burges (1796) submitted to Don Diego de Vegas, commandant at Fort St. Marks, Apalachee, praying for reimbursement of expenses incurred for rendering unspecified services to the Spanish government. In 1797 he was engaged by Colonel Hawkins as assistant and interpreter. In 1799, as already noted, he sought out Andrew Ellicott on the Chattahoochee River, to warn him of the hostile attitude of the Indians. This suggests that when in the American service he was loyal to its interests.

It is likely that Burges was a frequent visitor to St. Marks, where he probably secured his trade goods from Panton's store near that place, as the line of the first Forbes' Purchase in Florida crossed the Ochlockonee River at "Burgessford."

On Bowles' return in 1799, Burges became one of his partisans, and consistently repudiated his obligations to Panton. Subsequent to the capture and removal of Bowles in 1803, no further mention of Burges has been encountered, an omission which suggests his contemporaneous departure from the scene.

Although the inscriptions shown on the plats of lots 223 and 224 would indicate that this "old settlement" was distant not more than a mile from the site of Fort Hughes, failure to mention its occupancy at the time of the survey in 1819 is indicative of abandonment and ruination by that date.

RECOMMENDATIONS

Of the sites considered, on only one is there encountered tangible structures indicative of its original significance. Reference is made to the arsenal. On none of the others are there to be found contemporary remains or ruins, excepting potsherds, which substantiate the historical events herein narrated. Local tradition has failed to perpetuate memory of others, some of which have lapsed into complete oblivion. Such could have been the fate of at least one of the sites marked by the gun monuments, were it not for the monuments. The locations of two of these monuments were in situations hidden and not readily accessible, and one at least was only discoverable with the aid of a local guide, since attention was not called to their proximity by roadside signs or markers.

It has been related that disappearance of four sites will be complete and presumably permanent at an early date by the impounding. Since these are already obliterated and memory of all except one, Fort Scott, has already faded, their disappearance beneath the rising waters will be of no great consequence.

The inattention which has resulted in local oblivion, is, however, another matter, expressive of a too general lack of appreciation of the deeds and actions of those who, regardless of whether or not they were our ancestors, nevertheless shaped and molded many aspects of our personal life today. To check the tendency for these to imperceptibly slip into oblivion, or to recall to memory sites which have already been forgotten, is a responsibility which those of the present generations owe to those who are yet to come.

Discovered written or printed records and reports have permitted the synthesis of the narratives which describe infrequently to a more, or usually to a less adequate degree, the events which gave these sites significance. Inadequacy is largely attributable to a deficiency of sources that would have permitted several narratives to have been more complete and accurate, reducing or eliminating the necessity to employ inference or deduction to secure continuity in the story.

Even though such accounts become widely distributed, they but rarely would permit a traveler to realize that in the course of his journey he might be passing over, through, or adjacent to a historical site. The best means yet devised to supply this deficiency is the erection of indestructible markers on the highways, in positions as close as possible to the site commemorated, where those who have the time and interest can stop and read their legends.

These, where practical, and in this case practicality is related to accessibility of the site and the accuracy of identification, should be supplemented by other markers on the site itself.

In the case of the submerged sites, the markers of necessity must be located at some distance. Occasionally it might be practicable to anchor a floating marker at a site. It is suggested that consideration be given to the anchoring of a large harbor mooring buoy on the site of Fort Scott. This could be located a sufficient distance north of the edge of the submerged bluff, west of where the gun monument stood, so that it would not menace commercial navigation in the channel.[4]

Much of the local road in Jackson County, Fla., on the west side of the river will require relocation. It formerly traversed part of Econchatimico's Reservation. When relocated it will probably be at some distance from that corner of the reservation that will not be submerged. If some portions of the old road are preserved as a branch access road to the lake, a marker might be located where the west boundary of the reservation intersects the access road.

The erection of markers may be a function which a State has assumed, as in the case of Georgia, or it may be done by a county or town, or be a service undertaken by local civic or patriotic organizations. However provided, preferably they should tend to conform to the conventional pattern now widely in use.

Through some oversight of patriotic organizations in Decatur County, the burial of United States soldiers at Camp Recovery has been neglected on Memorial Day. While the same may be said of the burials at Fort Scott, failure up to the present to identify the burial ground at either place, affords adequate excuse. However, a wreath laid annually on the three gun monuments would be, in the circumstances, adequately appropriate.

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[4] Frank S. Jones has visited the site of Fort Scott since closure of the dam and filling of the pool. He reports that the position on the river bluff which the monument occupied has not been flooded.

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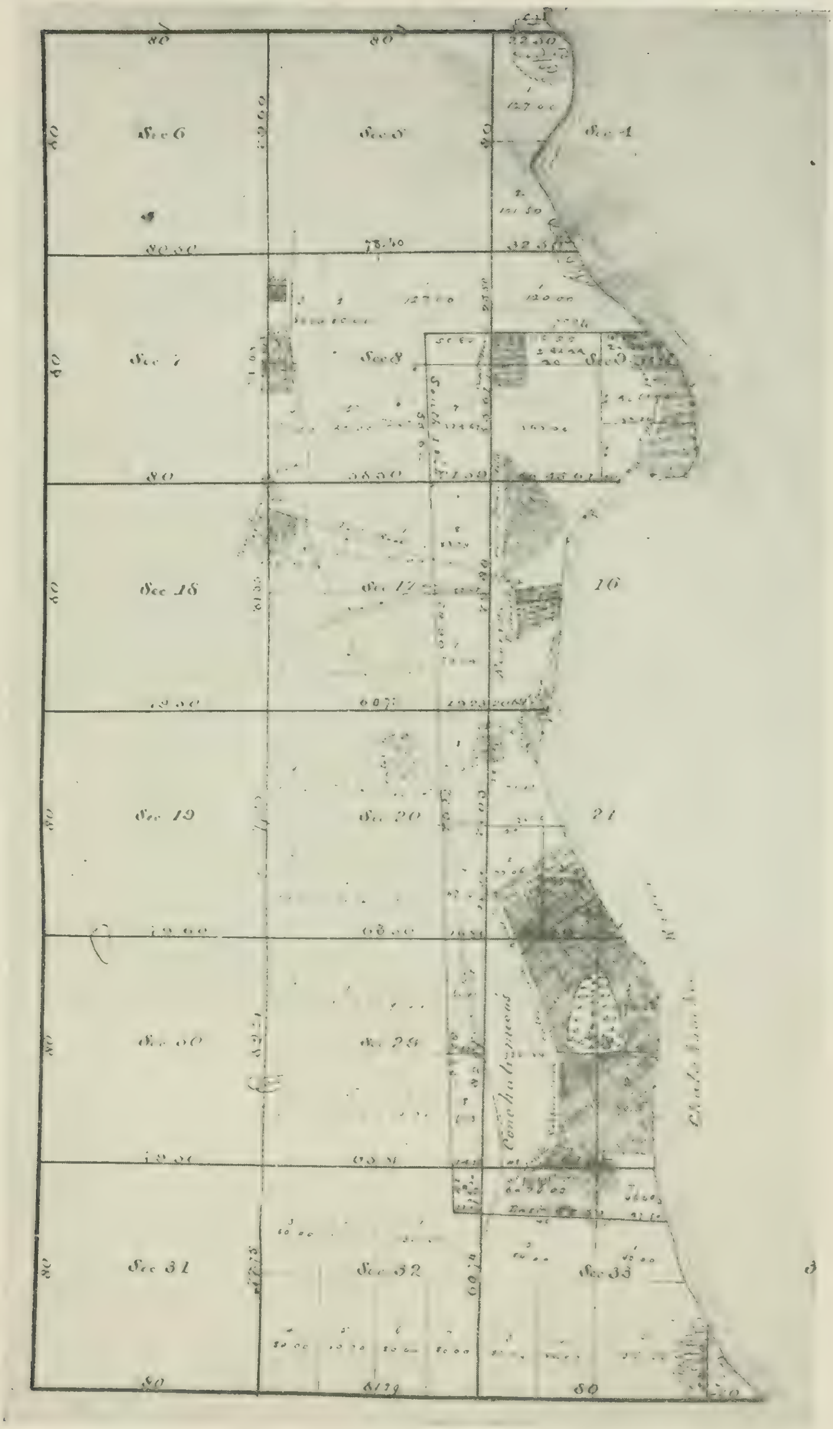
Sec 6
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Sec 20
21
Sec 30
Sec 29
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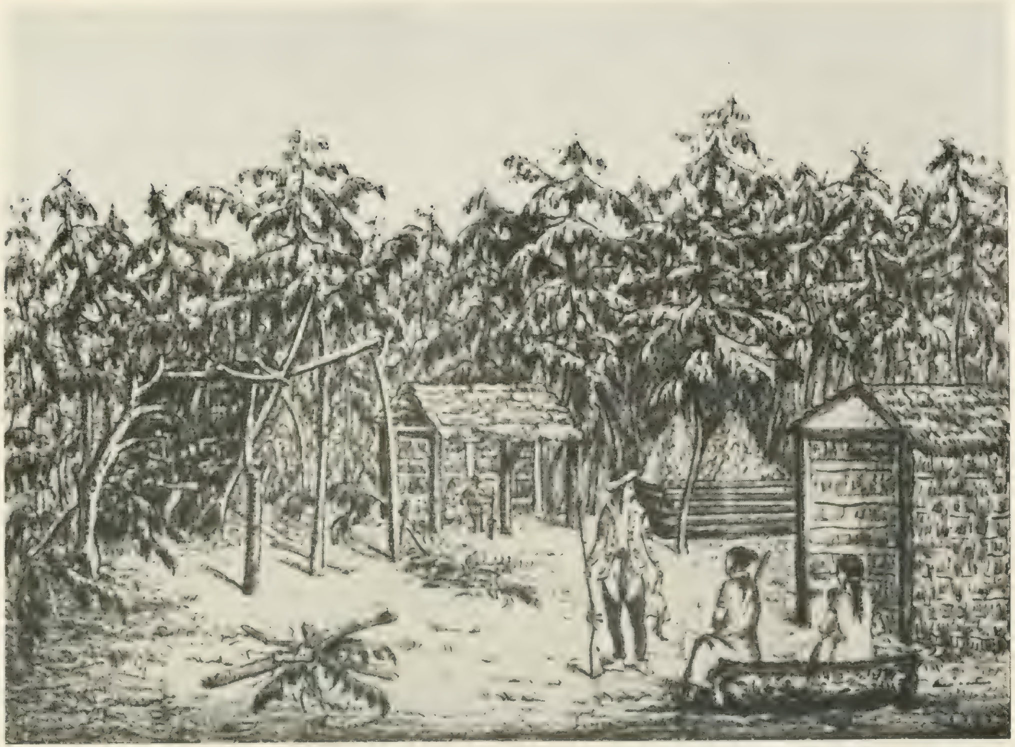
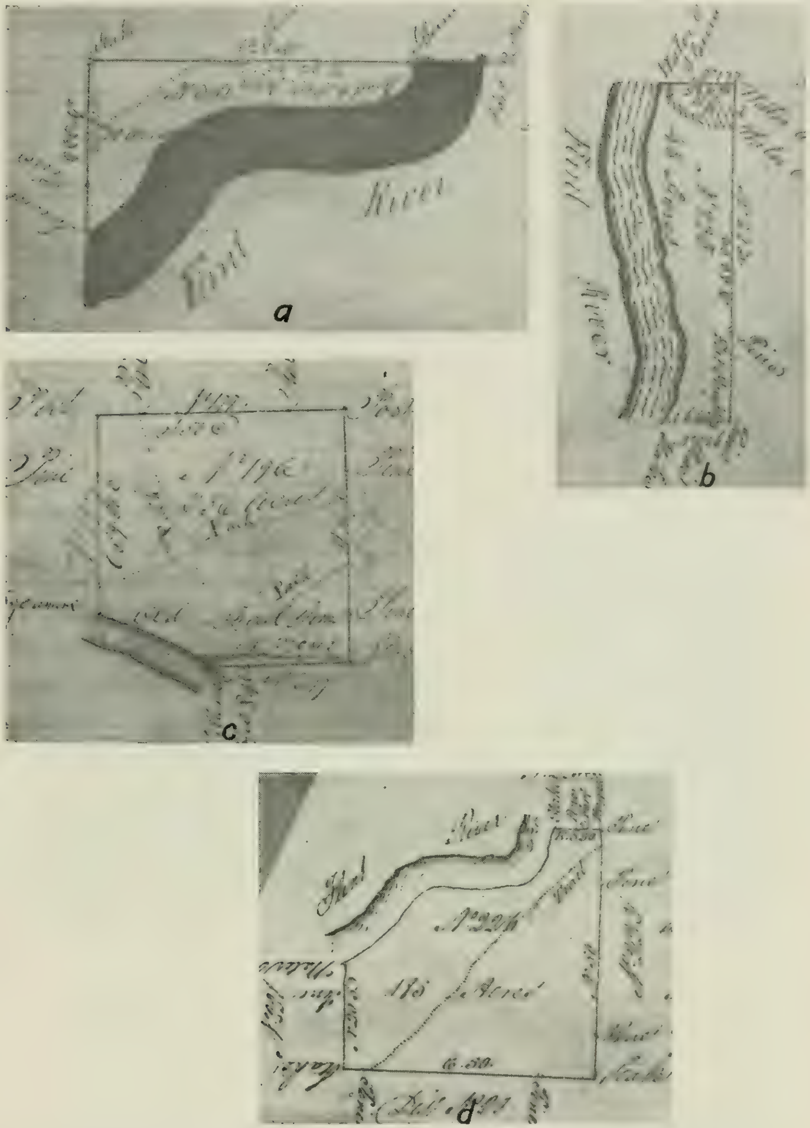
Sec 33
80

Site A. Plat of Econchatimico's Reserve in fractional T. 5 N., R. 7 W. Originally surveyed in 4th quarter, 1825, by Hays and Drake, resurveyed in 4th quarter, 1843, by George Houston, Deputy Surveyor. The Indian fields are shown by cross hatchings, which bear the names of the white squatters who preempted them. (Plat Book, Field Note Division, State Department of Agriculture, Tallahassee, Fla.)

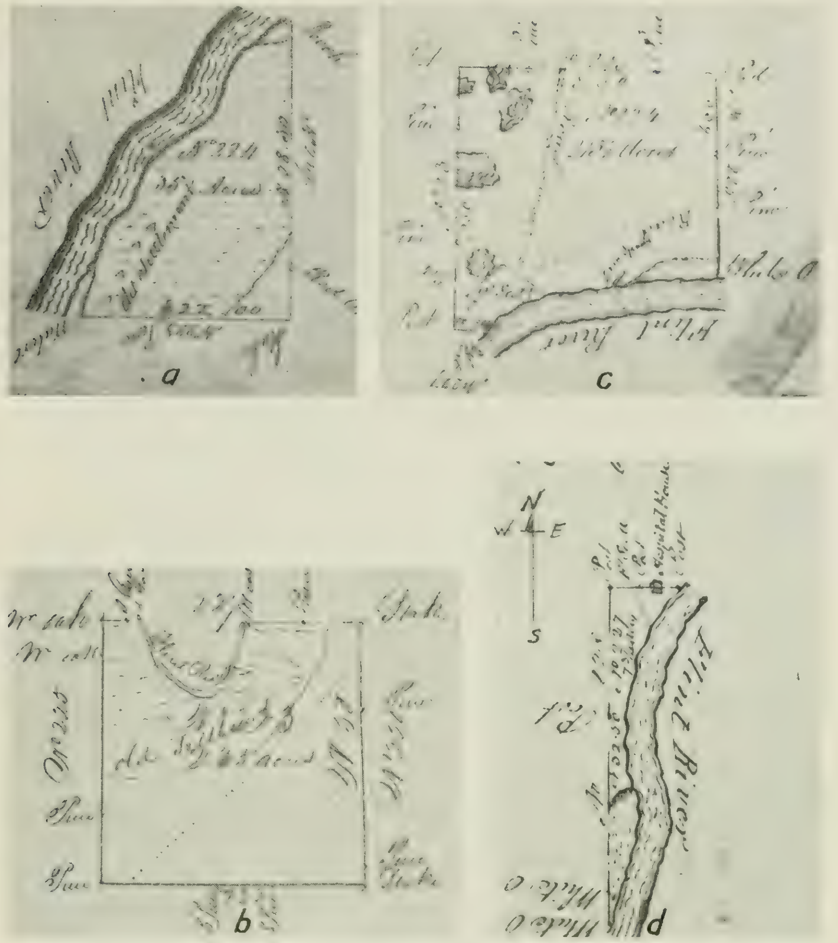


Site A. "Village Indien sur l'Appalachicola" (Pl. 9, fig. 1, Castelnau, 1842). Although unnamed, the circumstance that its location is given as the Apalachicola River rather than the Chattahoochee River, suggests that it is a representation of Choakanickla (=Choconicla) of John Walker (=Emachitochustern) rather than the Hitchetan of Econchatimico, since these are the only two river villages which Castelnau specifically mentioned. It is reasonably certain that their aspect would be closely similar. Castelnau stated the shelters were constructed of palm leaves.

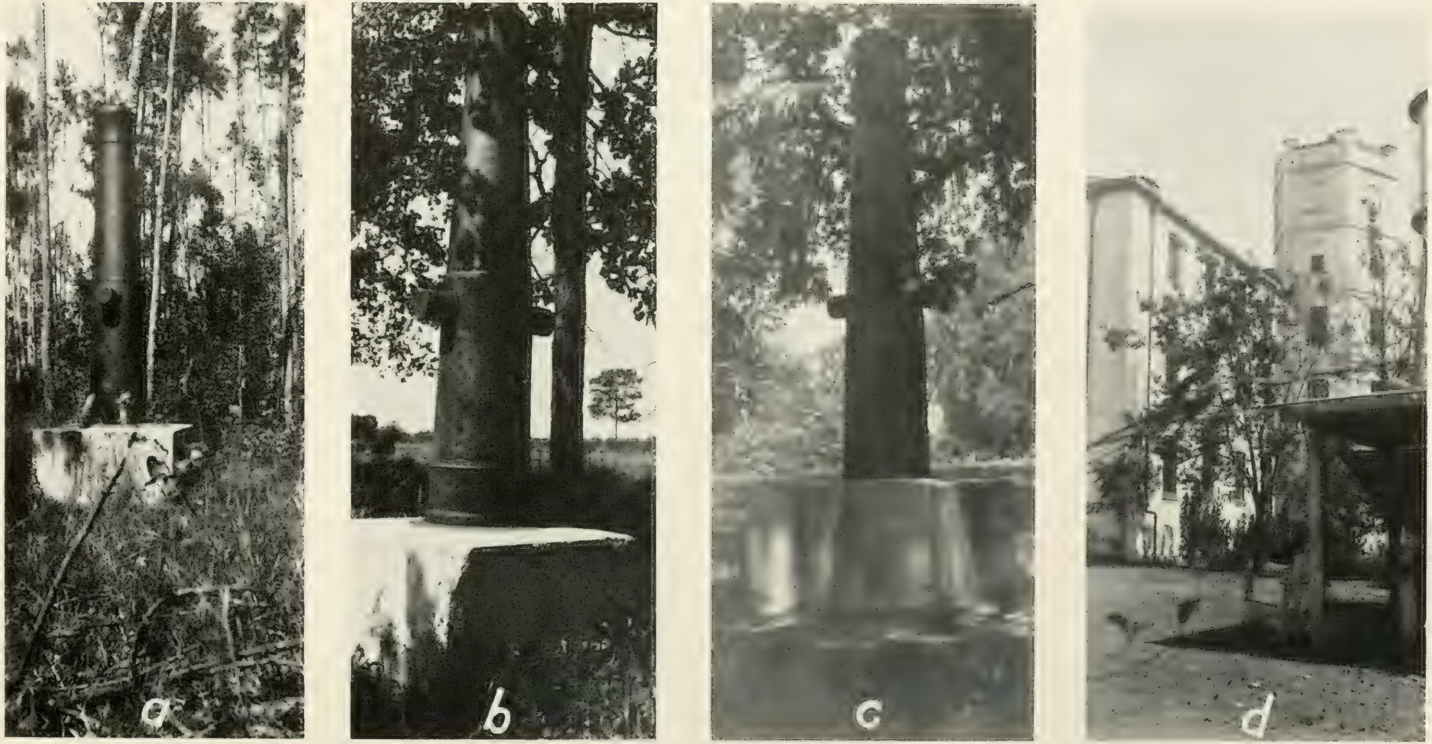

Flint
River
a
Flint
River
b
No 196
c
Flint
River
No 226
115 Acres
6.50
d

Plat of certain Georgia Land Lots, Districts 14 and 15. *a*, Fort Hughes, District 15, Lot 332, Surveyed 1/3/820. *b*, Fort Hughes. District 15, Lot 225. Surveyed 12/10/819. *c*, Fowl Town No. 2. District 14, Lot 196. Surveyed 1/25/820. *d*, Fort Hughes. District 15, Lot 226. Surveyed 12/10/819.

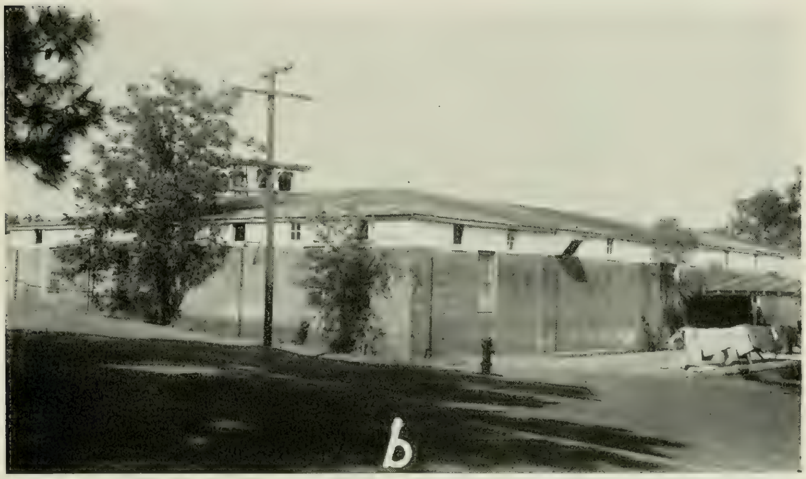
a, Site B. Fowl Town No. 2 on the Chattahoochee River. (See pl. 48,*c*, and text p. 209.) *b*, *c*, Turkey Patch site, 9SE20, before and after general clearing. Both looking east from same position. District 14, Lot 36. (See p. 212.)



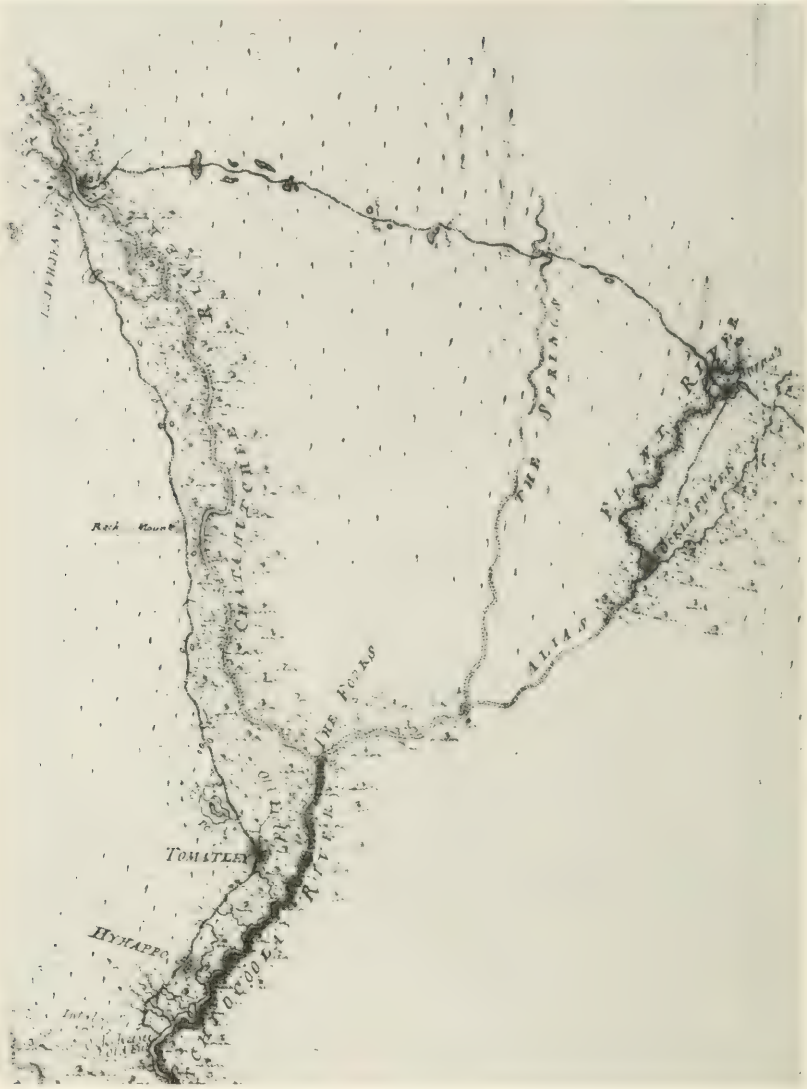
Plat of certain Georgia Land Lots, Districts 15 and 21. *a*, Burges'. District 15, Lot 224. Surveyed 12/10/819. *b*, Burges'. District 15, Lot 223. Surveyed 12/10/819. *c*, Fort Scott. District 21, Lot 224. Surveyed 2/18/820. *d*, Fort Scott. District 21, Lot 227. Surveyed 2/18/820.



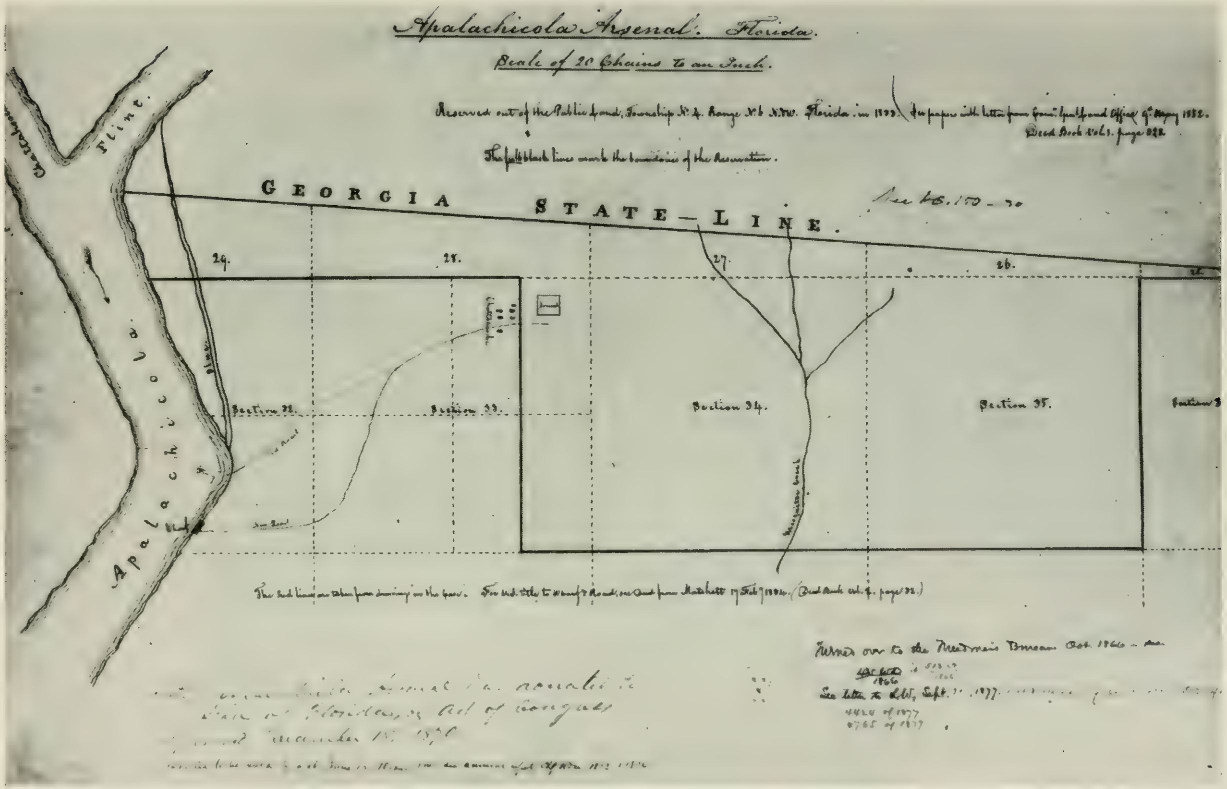
a, Site D. The Fort Scott gun monument in its original situation photographed about 1937. The position of the photographer was about halfway between the monument and the crest of the river bluff, looking north. *b*, Site 6. View of the gun monument at Camp Recovery, circa 1937. *c*, Site 9. View of the Fort Hughes gun monument in Chason Park, Bainbridge, Ga. *d*, Site 5. Florida State Hospital. View of the Arsenal building with the hexagonal tower, from the southwest. 1953.



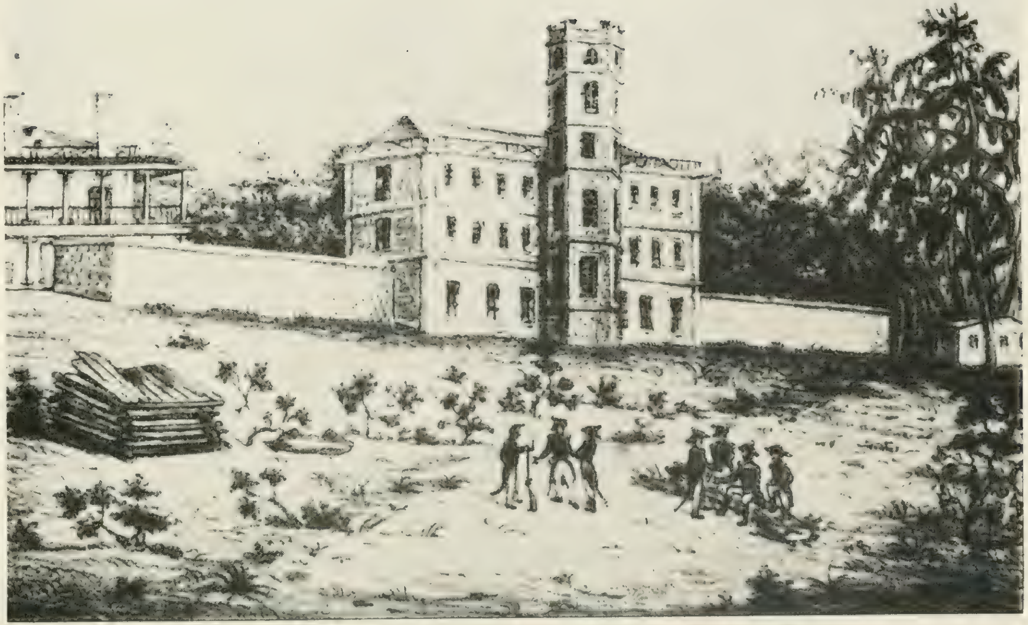
a, Site D. The Fort Scott site after clearing of the bluff top, looking east from about the former location of the monument. The trees to the right are on the declivity of the bluff; the standing trees beyond the human figures are around "Lish" White Spring. *b*, Site 5. Florida State Hospital. View of the extramural magazine enclosure from the southwest. 1953.


Rock Mount
THE SPRINGS
FLINT RIVER
OCKLAFUNES
THE FORKS
TOMATLEY
HYHAPPO
RIVER

Region about the fork of the Apalachicola River. (Purcell-Stuart map of 1778.)


Apalachicola Arsenal. Florida.
Scale of 20 Chains to an Inch.
Reserved out of the Public Land, Township No. 4. Range No. 6 N.W. Florida in 1833. See papers with letter from Genl. Land Office 9th May 1832.
Deed Book Vol. 1. page 322.
The full black lines mark the boundaries of the Reservation.
GEORGIA STATE LINE.
29.
28.
27.
26.
Section 32.
Section 33.
Section 34.
Section 35.
Flint.
Apalachicola
Turned over to the Freedman's Bureau Oct 1866
See letter to LWS, Sept. 1877.
4424 of 1877
6765 of 1877

Site 5. Plat of the reservation of the United States Arsenal at Chattahoochee, Fla., circa 1860. (National Archives.)



Site 5. "Arsenal á Mount Vernon" (pl. 9, fig. 3, Castelnau, 1842). Probably sketched in the spring of 1838. In center is shown the Arsenal proper with a hexagonal tower; to the left are the quarters of the commandant, together with enclosing wall. Except for a gate cut through this wall between the two buildings, and the presence of second-growth trees which obstruct the view, the present-day view is practically identical with that shown. (Cf. pl. 51, *d*.)

SMITHSONIAN INSTITUTION
Bureau of American Ethnology
Bulletin 169

River Basin Surveys Papers, No. 14

Six Sites near the Chattahoochee River in the Jim Woodruff Reservoir Area, Florida

By RIPLEY P. BULLEN

422141—58——24

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MAP

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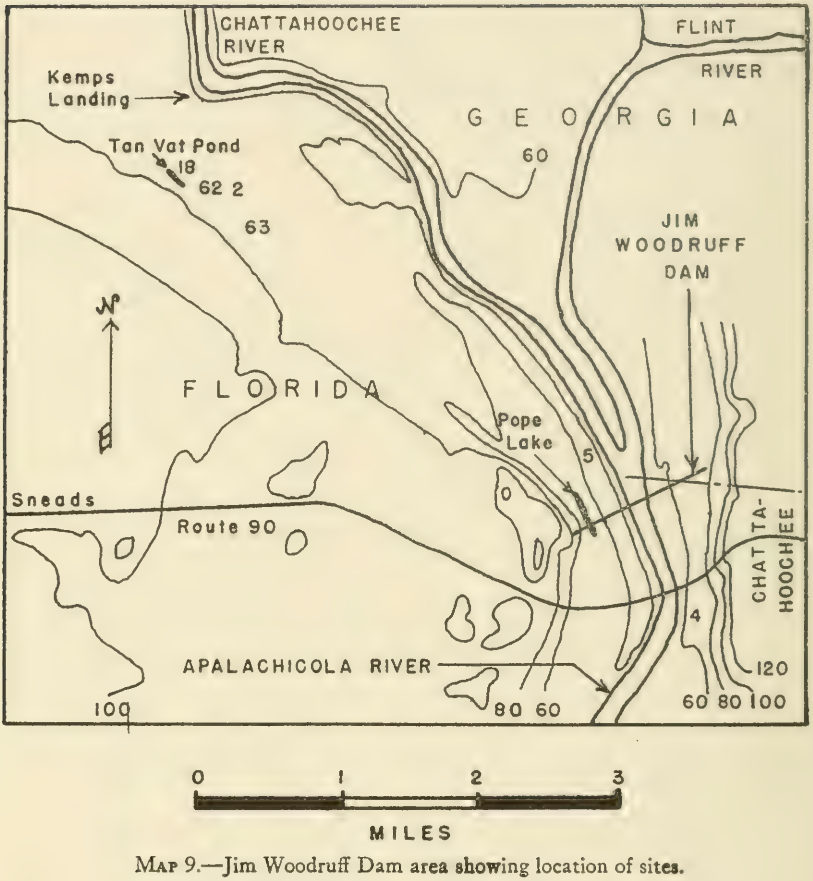
CHATTAHOOCHEE RIVER
FLINT RIVER
Kemps Landing
GEORGIA
Tan Vat Pond
18
62 2
63
60
JIM WOODRUFF DAM
N
FLORIDA
Pope Lake
5
Sneads
Route 90
0
0
CHATTAHOOCHEE
4
APALACHICOLA RIVER
120
100
80 60
60 80 100
0 1 2 3
MILES

MAP 9.—Jim Woodruff Dam area showing location of sites.

SIX SITES NEAR THE CHATTAHOOCHEE RIVER IN THE JIM WOODRUFF RESERVOIR AREA, FLORIDA[1]

By Ripley P. Bullen

INTRODUCTION

In the fall of 1952, construction of the Jim Woodruff Dam in northwest Florida approached the stage when water would be impounded and Indian sites flooded (map 9). Negotiations were started between the National Park Service and the Florida State Museum, University of Florida, with a view to salvaging archeological data within the State of Florida. In April 1953, contract 14–10–0100–134 was signed, under which the work covered by this report was completed. Reports by Joseph R. Caldwell and Carl F. Miller of work done in the Georgia portion of the area to be flooded will appear in a subsequent series of River Basin Surveys Papers.

In 1948, under the auspices of the Florida Park Service, the author conducted a site survey with test excavations of the Florida portion of the Jim Woodruff Dam area (Bullen, 1950). The reader is referred to that survey for a description of the geographical setting and for the location of sites not included in map 9. All excavated or tested sites discussed in this report are located on the bottom land or flood plain of the Chattahoochee and Apalachicola Rivers, either on present or on what may be presumed to be earlier natural levees.

Other work in the area included the excavation of a mound near Kemps Landing on the Chattahoochee River (map 9, *2*) and investigation of mounds at Chattahoochee Landing on the Apalachicola River (map 9, *4*) by Clarence B. Moore (1907, pp. 428–429; 1903, pp. 491–492). These sites will be referred to later.

The month of June 1953 was spent in the field with a crew of nine. Due to severe rains, which flooded trenches (pl. 70, *b*) and interfered with access roads, it was sometimes necessary to abandon work at a site for several days and then to return to it after digging at another location. Consequently, description of excavations does not follow the order in which work was done.

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[1] Revised manuscript submitted October 1956. Original manuscript submitted to Region 1 office of the National Park Service in July 1954 and accepted by Regional Director as fulfillment of agreement between the National Park Service and the Florida State Museum.

Originally, it was planned to excavate sites J–5, J–18, J–23, and J–32. J–23 and J–32 were tested and found to be "camp sites" with only scattered remains. J–5 proved to comprise four sequential occupations separated by sterile zones. More time was spent there than at all the other sites combined. Excavations were conducted at J–18, and two additional sites, Ja–62 and Ja–63,[2] were discovered and extensively tested. A stratigraphic test was also made at site G–4 (Moore's Chattahoochee Landing), and Moore's mound near Kemps Landing (Ja–2) was investigated (map 9).

Typological description of pottery types mentioned in this report will be found in Goggin (1948), Willey (1949), Bullen (1950), Griffin (1950), Sears (1951 a, 1956), and Sears and Griffin (1950). Blakely Complicated Stamped is to be described by Sears in a forthcoming publication.

The following chronological framework will be used in this report. It follows Willey and Woodbury's 1942, Willey's 1949, and Goggin's 1950 a presentations plus changes and additions reflecting the work of various people. Dates, of course, are approximations.

1838 A. D.
Lower Creek (Seminole)
1704 A. D.
Leon–Jefferson (Spanish Mission)
1633 A. D.
Ft. Walton
1300 A. D.
Weeden Island ?——— Kolomoki
500 A. D.
Santa Rosa–Swift Creek
0 A. D.–B. C.
Deptford
500 B. C.
Transitional
1000 B. C.
Orange (Late Archaic)
2000 B. C.
Preceramic (Early Archaic)
?? B. C.
Paleo–Indian (Folsomlike)
8000 B. C.

The names above refer, of course, to abstracted archeological periods and are based, predominantly, upon the presence or absence of various pottery types. The chronological placing of the Kolomoki period is, at the time of writing, controversial.

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[2] University of Florida designation under which "Ja" instead of "J" refers to Jackson County, Fla. Sites mentioned in the original survey report (Bullen, 1950) will be referred to under their original published designations.

EXCAVATIONS

SITE J–18, THE TAN VAT SITE

Site J–18 is located on a low rise on the eastern side of Tan Vat Pond (map 9, *18*). As the culture zone paralleled the present surface, it seems evident this rise was a determining factor in the location of the site. Tan Vat Pond is undoubtedly a remnant of an old channel of the Chattahoochee River, possibly the active channel during occupation of the site.

The site and the neighboring bottom land had been cleared of trees and brush prior to our arrival (pl. 56, *a*). Consequently, we had an opportunity to look over the terrain more carefully than we could during the 1948 survey (Bullen, 1950). Moore's mound near Kemps Landing (Ja–2) and a new site (Ja–62), between that mound and site J–18, were located (map 9, *2* and *62*). The whole area consisted of many low rises, 2 to 3 feet in height, more or less surrounded and formed by shallow sloughs. Sites J–18 and Ja–62 were located on the more prominent rises.

The Tan Vat site (J–18) covered an area of about 50 by 80 feet. We excavated an area of 675 square feet by means of a trench, 10 feet wide and 50 feet long, extending northwest-southeast, with extensions near the northwestern end of 5 feet farther to the northeast and 15 feet farther to the northwest (toward the pond). Tests made in 1948 were located just beyond the northern part of our excavations.

Excavation was done by arbitrary 4-inch levels and the resulting ceramic analysis is given in table 1. Plates 57 and 58 illustrate selected sherds and other artifacts. The profile consisted of brown sandy clay, containing cultural remains, which rested on sterile, compact, grayish-yellow clay.

Only one feature was found, a pit about 5 feet in diameter and 3 feet in vertical dimension. It was bowl shaped and filled with brownish-tan dirt. Mixed in the fill were a half dozen chips and scattered flecks of charcoal. Two undecorated sherds were found near the top of the pit.

Pottery from the Tan Vat site, except for fiber-tempered sherds, contains a large amount of fine sand that frequently protrudes on the surface. Micaceous inclusions are occasionally present. Lands of complicated stamped sherds are in low relief (pl. 58, *g*). Careful attention to surface finish does not seem to have been a characteristic of the potters of this site.

TABLE 1.—*Vertical distribution of pottery at site J–18*

Pottery types	Depth below surface			Not zoned	Total	Illustrations
	0–4 inches	4–8 inches	8–12 inches			
Late Archaic period						
Steatite sherds	2	--------	--------	--------	2	
Orange Plain	3	4	--------	1	8	Pl. 58, *l*
Deptford period:						
Dunlap Fabric Marked	2	3	--------	2	7	Pl. 58, *k*
Deptford Linear Check Stamped	7	5	--------	1	13	
Deptford Simple Stamped	1	1	--------	--------	2	
Tetrapods	1	1	--------	--------	2	
Santa Rosa-Swift Creek period:						
Swift Creek Complicated Stamped, Early Variety.	--------	1	--------	--------	1	
Gulf Check Stamped	7	5	--------	2	14	
Santa Rosa-Swift Creek or Weeden Island period:						
Swift Creek Complicated Stamped, body sherds.	22	10	--------	8	40	Pl. 58, *g*
Weeden Island period:						
Swift Creek Complicated Stamped, Late Variety.	5	1	1	--------	7	Pl. 58, *f*
St. Andrews Complicated Stamped	2	--------	--------	--------	2	
Carrabelle Punctated	5	3	--------	1	9	Pl. 58, *a–c*
Weeden Island Incised	1	--------	--------	--------	1	Pl. 58, *h*
Weeden Island Red (interior painted)	1	--------	--------	--------	1	
Weeden Island Plain (rims)	10	8	--------	2	20	Pl. 58, *d–e*
Wakulla Check Stamped	2	1	--------	1	4	Pl. 58, *i–j*
Miscellaneous:						
Incised, punctated, or stamped	13	18	--------	6	37	
Basketry impressed	1	2	--------	--------	3	
Unique	2	1	--------	--------	3	
Pottery coil	1	--------	--------	--------	1	
Sand-tempered plain	187	193	15	118	513	
Total	275	257	16	142	690	

What may have been the end of a bannerstone (pl. 57, *k*) and part of a two-hole gorget (pl. 57, *m*) were excavated. The former was made of steatite and the latter of a fine-grained, reddish-brown rock.

The gorget fragment is a little convex on one side and slightly concave on the other. It is seven-sixteenths of an inch thick at the break and the tapered hole was drilled nearly through from the convex side before completion from the other side. The convex side, presumably the front, is decorated by a grid or checkerboard design formed by neatly incised, extremely fine, lines (pl. 57, *m*). Sides of squares vary from three-sixteenths to five-sixteenths of an inch in length.

Thirty-one whole or fragmentary tools of chipped chert were found including points, knives, scrapers, drills, and utilized flakes. Noteworthy is a rather steep, small, thumbnail scraper (pl. 57, *i*) and a side scraper with a neatly chipped edge made from a flake (pl. 57, *j*). To the stone inventory should be added a pitted sandstone slab, 26 broken quartz cobbles, 1 chert and 4 quartz hammerstones, and 7 pieces of coral chert. An unworked quartzite disk (pl. 57, *l*) was probably brought to the site by one of the inhabitants.

That chipped tools were made at the site is indicated by the presence of hammerstones and over 800 chert chips. Workmanship, as will be noted from the illustrations (pl. 57), appears to be relatively poor or careless. While the quantity of stone tools is not great, it is impressive when compared with the quantity found at the Fort Walton village (J–5) to be discussed later.

The gorget and bannerstone fragments, as well as the steatite sherds, must represent importations, as the materials from which they were made were not locally available.

Food remains consisted of a few charred nuts. Bits of calcined food bones were not noted. However, the relatively large amount of chipped-stone tools suggests reliance on game for a considerable portion of the food supply.

DISCUSSION OF SITE J–18

When the Tan Vat site was tested in 1948, all the pottery uncovered could be included in late Santa Rosa-Swift Creek and early Weeden Island pottery types (Bullen, 1950, p. 108). The 1953 excavation complicated the situation by producing material from the Orange (Late Archaic) and Deptford periods as well.

Examination of the pottery tabulation (table 1) clearly indicates this cultural admixture. While the picture is considerably blurred stratigraphically and of little assistance chronologically, there are a few trends in the expected direction. For example, Weeden Island pottery types have a shallower average distribution than do other types.

It should also be noted that the projectile points found were markedly different, typologically, from those excavated in 1948 (contrast pl. 57 with Bullen, 1950, fig. 4). Presumedly, this reflects the cultural admixture mentioned above. The stemmed points probably correlate with the earlier pottery. Plotting the vertical distribution of stone tools did not produce significant data.

The pottery collection indicates occupation of site J–18 for a long period of time (from about 1000 B. C. to about A. D. 800) and during several archeological periods. It is evident such habitation must have been rather intermittent and transitory. Otherwise there would have been more abundant remains. It was probably only during the early part of the Weeden Island period that anything approaching a permanent village was located beside Tan Vat pond.

SITE JA–62

Site Ja–62 is located on the bottom land of the Chattahoochee River between the Tan Vat site and Moore's mound near Kemps Landing (map 9, *62*). As a result of tree clearing and stump removal, pottery, projectile points, and chips were found on the surface. Our work consisted of a small trench, 5 feet wide and 25 feet long, excavated by arbitrary 4-inch levels. The resultant pottery analysis is presented in table 2, and selected specimens are illustrated in plates 59 and 60.

The site profile was composed of a superior dark brown, sandy clay zone, 13 inches thick, which contained pottery, chips, and lumps of charcoal. It rested on a light-brown, sandy clay zone, 10 inches thick, containing but a small amount of charcoal and pottery—and that in its upper part only. Below was compact red clay.

Of two pits, one was merely noted, as only a small portion of it was encountered by our trench. In that small portion was found the fossil cast of an ocean shell. The other pit was 36 inches in diameter and led downward an additional 18 inches from a depth of 12 inches (pl. 56, *b*). It had a fairly flat bottom and steep sides. Fill of this pit contained charcoal, sherds, chert chips, a fragment of a charred nut, and occasional bits of calcined and unburnt bone.

Pottery from site Ja–62 is fairly sandy and made from clay that contained particles of mica like that from the Tan Vat site (J–18). However, less tempering material seems to have been used. Smoother surfaces reflect, apparently, more careful work by potters in this regard (cf. pls. 58 and 60). Thick, folded rims (pl. 60, *a–c*, *h*) are a feature of vessels used at this site.

TABLE 2.—*Vertical distribution of pottery at site Ja–62*

Pottery types	Depth below surface				Pit 1	Surface	Total	Illustrations
	0–4 inches	4–8 inches	8–12 inches	12–16 inches				
Late Archaic period:								
Orange Plain	--------	--------	1	1	--------	--------	2	Pl. 59, *r*
Deptford period:								
Deptford Simple Stamped	--------	--------	--------	3	--------	--------	3	
Deptford Linear Check Stamped.	--------	--------	--------	3	1	--------	4	Pl. 59, *p*
Deptford Check Stamped	--------	--------	--------	1	2	--------	3	Pl. 59, *n*
Santa Rosa-Swift Creek period:								
Gulf Check Stamped	--------	1	--------	--------	--------	1	2	
Franklin Plain (rim)	--------	--------	--------	--------	--------	1	1	Pl. 59, *m*
Swift Creek Complicated Stamped, Early Variety.	--------	--------	1	--------	--------	--------	1	Pl. 59, *l*
West Florida Cord Marked	--------	1	4	3	--------	--------	8	Pl. 60, *k–l*
Tetrapodal base	1	--------	--------	--------	--------	--------	1	Pl. 59, *q*
Santa Rosa-Swift Creek or Weeden Island period:								
Swift Creek Complicated Stamped, body sherds.	13	30	41	27	23	19	153	
Weeden Island period:								
Swift Creek Complicated Stamped, Late Variety.	--------	2	4	2	--------	--------	8	Pl. 60, *a–c*
St. Andrews Complicated Stamped.	4	13	12	9	3	4	45	Pl. 60, *m–n*
Keith Incised	--------	1	--------	--------	--------	--------	1	Pl. 60, *e*
Indian Pass Incised (ticked variant).	--------	1	--------	--------	--------	--------	1	
Carrabelle Punctated	--------	--------	--------	--------	1	2	3	Pl. 60, *d*
Carrabelle Incised	--------	--------	2	--------	--------	--------	2	Pl. 60, *f*
Weeden Island Red (interior painted).	--------	2	--------	1	--------	1	4	
Weeden Island Plain (rims)	2	9	18	6	2	9	46	Pl. 60, *g*
Wakulla Check Stamped	11	25	28	18	2	9	93	Pl. 60, *h–j*
Fort Walton period:								
Lake Jackson Plain (with bosses).	--------	1	--------	--------	--------	--------	1	Pl. 60, *o*
Miscellaneous:								
Net impressed	1	--------	1	--------	--------	1	3	Pl. 59, *o*
Incised, punctated, or stamped.	5	2	13	6	--------	15	41	
Flat bottom (Kolomoki type).	--------	1	--------	--------	--------	--------	1	
Pottery coil	1	--------	2	--------	--------	--------	3	
Sand-tempered plain	99	183	232	134	53	160	861	
Total	137	272	359	214	87	222	1,291	

In addition to the projectile points and knives illustrated (pl. 59), the stone inventory from our test included 12 worked fragments, over 600 chert chips, a quartz hammerstone, and 9 broken quartz cobbles.

DISCUSSION OF SITE JA-62

Examination of table 2, showing the vertical distribution of pottery at site Ja–62, indicates a cultural admixture similar to that mentioned earlier for site J–18. The stratigraphic picture, however, is much clearer. Fiber-tempered sherds (Orange Plain) and sherds of the Deptford complex are limited to lower zones, while pottery of the Weeden Island period tends to concentrate at shallower depths. Presence of the Lake Jackson Plain sherd (pl. 60, *o*) is surprising. Fortunately, it was found relatively near the surface.

In contradistinction to site J–18, projectile points from site Ja–62 tend to be side notched. Some suggestion of chronological changes in shapes of projectile points is indicated by their vertical distribution. One small stemmed point (pl. 59, *a*) came from the 12- to 16-inch level, while side-notched points came from higher zones (pl. 59, *c* from 0–4 inches, *e* and *f* from 4–8 inches, and *d* from 8–12 inches). The other illustrated points (pl. 59, *b* and *g*) were surface finds which, presumably, arrived at that location as a result of previous stump- and tree-clearing operations.

These side-notched points are similar to those found at site J–18 during the 1948 test, when very early pottery was not uncovered. They appear to correlate with late Santa Rosa-Swift Creek and early Weeden Island pottery types in the Jim Woodruff Dam Area.

Pottery collections from site Ja–62 show intermittent occupation over an extremely long period of time, possibly from about 800 B. C. to about A. D. 1000. Occupation during the Weeden Island period seems to have been more intense or of longer duration than during other periods. It is doubtful if the Lake Jackson Plain sherd should be taken to imply more than a very temporary camp.

Differences and similarities between projectile points and between pottery found at sites Ja–62 and J–18 have been mentioned or are evident from the pottery tabulations (tables 1 and 2) and the illustrations (pls. 58 and 60). Weeden Island pottery features are more common and more developed at Ja–62 than at J–18. The major occupation would seem to be later at Ja–62 than at J–18. Possibly people living at Ja–62 during its major occupation (middle Weeden Island times) were descendants of those living several generations earlier at J–18 (early Weeden Island times).

SITE JA-63

Site Ja–63 is located on the bottom land about a half mile southeast of Tan Vat Pond (map 9, *63*). It was brought to our attention by one of the tree-removal workers. When first visited, it was surrounded by water that had collected in shallow sloughs. Later, when the bottom land became drier, we were able to get to the site and spent 2 days digging an extensive test trench.

The site was originally discovered when a bulldozer turned up a quantity of mussel shells. Several holes had been dug near the southeastern edge of this shell deposit prior to our arrival. Our work consisted of a series of trenches, totaling an area of about 300 square feet, which surrounded the previous work on three sides. On the fourth side was low, swampy land.

Apparently, the site covered about a quarter of an acre, but pottery and other specimens were rare where shells were not present. As the last 2 days of our fieldwork were all we could spend at this site, our trench was limited to the most productive area.

The shell deposit appeared to be a typical slope midden, situated on the lower part of a slight elevation that rose a few feet above the surrounding land. We did not make any tests in the highest part of the area to find out whether or not houses had been built there by the aborigines. Due to rains and the lowness of the surrounding terrain, the low rise and the surrounding land had, at the time of our work, been only partially cleared and was covered by a network of felled trees.

The superior zone of the excavated portion of site Ja–63 consisted of dark-brown dirt, 4 to 6 inches in thickness, containing an occasional shell and, near its base, some pottery. An intermediate zone of mussel shells and black dirt, in places 10 inches thick, contained a large amount of pottery. An inferior zone of brown dirt varied up to 8 inches in thickness and only occasionally contained a sherd or a chip. Below was sterile, compact, red sand.

Excavation was done by arbitrary 6-inch zones and the resultant vertical distribution of pottery is presented in table 3. Selected sherds and stone artifacts are illustrated in plates 61 and 62.

Three pits, containing midden debris, were found. One was 15 feet from the other two which were 9 feet apart from each other. All were first noted in the 12- to 18-inch zone and had remarkably vertical sides with nearly flat, basin-shaped bottoms. They were 30, 34, and 36 inches in diameter and measured 16, 20, and 26 inches vertically, respectively. Sherds found in them have been included separately in table 3.

As shown in the pottery tabulation (table 3), Kolomoki Complicated Stamped (pl. 62, *a–d*) is the dominant ceramic type at site Ja–63. Included in the tabulation are seven sherds of a straight-line variant (pl. 62, *b*), all of which came from pit 3.

This pottery is tempered with fine sand and, in agreement with most of the ceramics of the lower Chattahoochee River area, contains a fair amount of micaceous material. Large pots, about a foot in diameter and at least that deep, with relatively thin, nearly straight sides, seem to have been the prevailing form. Stamps with large, neatly cut, patterns were impressed fairly deeply, with relatively little overstamping, into the walls of vessels. This neatness is somewhat lost in the finished product, as lands have been rubbed or smoothed as a finishing operation. Both inner and outer surfaces are well smoothed. Vessels were well fired and have a surface hardness of about 3.5 on Mohs' scale. Technically, this pottery is better made than that mentioned earlier for sites J–18 and Ja–62.

The two illustrated Weeden Island Incised sherds (pl. 61, *k–l*) are of a "fine orange paste" mentioned by Sears as present at the Kolomoki site in Georgia (Sears, 1951 a, p. 27). The two other sherds of this type contain a few coarse quartz pebbles (one-eighth of an inch in maximum dimension) as well as medium fine quartz sand. Incision on these two sherds is shallow and poorly executed by comparison with the illustrated examples. In both cases, incision is what Sears would call "free incised" (Sears, 1951 b, p. 12).

TABLE 3.—*Vertical distribution of pottery at site Ja–63*

Pottery types	Depth below surface			Pits			Surface	Total	Illustrations
	0–6 inches	6–12 inches	12–18 inches	1	2	3			
Kolomoki Complicated Stamped.	236	309	96	21	32	18	150	862	Pl. 62, *a–d*.
Blakely Complicated Stamped	1	4	1			1	1	8	Pl. 62, *e*.
Weeden Island Incised		2			2			4	Pl. 61, *k–l*.
Weeden Island Red (grooved rim).		1						1	
Weeden Island Plain (rims)	5	11	1		7		6	30	Pl. 61, *n*.
West Florida Cord Marked, Late Variety.		1			1			2	Pl. 61, *m*.
Flat bottom (Kolomoki type)		1	2	1			1	5	Pl. 61, *o*.
Sand-tempered plain	409	513	217	36	80	46	282	1,583	
Total	651	842	317	58	122	65	440	2,495	

Two baked clay objects, other than sherds, were found in the 0- to 6-inch level. One appears to be a fragment of the bowl of a smoking pipe. The other (pl. 61, *j*) is a fragment of an ornament.

A little over half of a steatite ornament (pl. 61, *i*) was found in the 6- to 12-inch zone. The illustrated, decorated surface is flat, while that of the opposite, undecorated side is markedly convex. The pointed end seems "battered" while the lower edge exhibits "tally marks." The groove across its minor axis is deeper than the incision of the decoration and was made later. This groove does not continue onto the reverse side.

Projectile points and knives, while of various types, are relatively small (pl. 61). Other stone objects include 9 worked fragments, 1 utilized flake, over 300 chert chips, 44 broken quartz cobbles, 1 chert, and 5 quartz hammerstones. A fossil manatee rib and a fossil shark's tooth were also found.

Food remains include a charred nut, many deer and turtle bones, part of the jaw of a black bear, several opossum jaws, a rabbit bone, and another from a spotted skunk;[3] as well as many mussel (*Elliptio crassidens* Lamark, *Lampsilis anadontoides floridensis* Lea, and *Megalonaias neislerii* Lea) and snail (*Campeloma geniculum* Conrad, *Viviparus contectoides goodrichi* Archer, and *Anguispira alternata crass* Walker) shells.[4] Interestingly, apexes of *Campeloma* and *Viviparus* shells had been ground, probably as an aid in the removal of the animal.

DISCUSSION OF SITE JA-63

That site Ja-63 is a "pure" or one period site is shown by the analysis of the ceramic collection (table 3). The artifact inventory is remarkably similar to that defined by Sears as the Kolomoki Complex at the Kolomoki site in Georgia about 50 miles to the north (Sears, 1951 a, pp. 8-23).

Kolomoki Complicated Stamped is the dominant pottery type with a very small amount of Weeden Island Incised and Plain also present. Check-stamping is absent, or nearly so, in both complexes. Flattened squarish bases (pl. 61, *o*) were found at both sites. A close relationship between the Kolomoki site and Ja-63 is demonstrable.

The nearly exclusive differences in the pottery at Ja-63 when compared with that from either J-18 or Ja-62 is also clearly evident. While a few pottery types will be found in common, such as Weeden Island Plain, a comparison of plates 58, 60, and 61 will readily show definite subtype differences.

These differences are so great and the geographical distances between site Ja-63 and sites Ja-62 and J-18 so slight (about a half mile), it seems extremely improbable people were living at Ja-63 contemporaneously with the occupations previously recorded for sites J-18 and Ja-62. While a hiatus may have been present at both J-18 and Ja-62 during the Kolomoki period, it seems more likely the occupation at Ja-63 occurred entirely after the abandonment of the other two sites (forgetting the 1 Lake Jackson Plain sherd at Ja-62) or, as suggested in the introduction, at around A. D. 1300.

Evidence, I understand, is being presented elsewhere (J. R. Caldwell, personal communication) indicating Kolomoki Complicated Stamped pottery precedes middle Swift Creek pottery types, i. e., dates to a time before the use of heavy, thickened rims such as were found at site Ja-62. In that case it would seem Kolomoki Complicated Stamped vessels must have been made over hundreds of years to be found with Mississippian-shaped vessels at the Kolomoki site in Georgia. The alternative would seem to place the origin of Mississippian-shaped vessels at the Kolomoki site. Possibly, Kolomoki Complicated Stamped sherds, found elsewhere, may not necessarily equate temporally with the Kolomoki period as found at the Kolomoki site in Georgia.

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[3] Animal bones kindly identified by Dr. Harley B. Sherman, Department of Biology, University of Florida.

[4] Shells kindly identified by Edmay V. Flowers, associate in mollusks, Florida State Museum.

It seems to me the zoned location of the stamp on the "necks" of some Kolomoki Complicated Stamped containers, the Mississippian shapes of many of the vessels at the Kolomoki site (Sears, 1951 b, pp. 26 and 32), and the tendency of the "free incised" decoration to be in a band below the lip and sometimes to be suggestive of Fort Walton designs (Sears, 1951 b, pp. 28–9) are all relatively late traits. They are more apt to belong at the end of Weeden Island than very early in the Weeden Island period.

Since the above was written, the Florida State Museum, through the courtesy of Dr. James B. Griffin, has secured from the University of Michigan Memorial-Phoenix Project Radiocarbon Laboratory a radiocarbon date of 350 A. D. plus or minus 250 years on charcoal from site Ja–63. Such a date supports the suggestion made above (J. R. Caldwell, personal communication) that Kolomoki Complicated Stamped pottery precedes middle Swift Creek pottery types. These data also suggests a hiatus at sites J–18 and Ja–62 during a Kolomoki period.

It also suggests that the Kolomoki period at the Kolomoki site itself, might be a temporal equivalent of Weeden Island I instead of Weeden Island II as suggested by Sears (1956, p. 80). However, such a date seems early in view of the Mississippian traits at the Kolomoki site (Sears, 1953, pl. 35, *b-c;* 1956, p. 85).

Very likely there is more time span for the Kolomoki "period" than has been recognized to date. Site Ja–63 is undoubtedly earlier than part of the Kolomoki site in Georgia, as no sherds suggesting Mississippian-shaped vessels were found.

SITE JA–2, MOORE'S MOUND NEAR KEMPS LANDING

In 1906, Clarence B. Moore excavated a burial mound near Kemps Landing on the west side of the Chattahoochee River. He located it at about a mile south-southeast of the landing. We were unable to find this mound during the 1948 survey but with the clearing of the land easily located it in 1953. The site (Ja–2) is three-quarters of a mile south of the landing and only a short distance east of site Ja–62 (map 9, *2*).

Prior to our arrival, a bulldozer had been driven, from west to east, through the remains of the mound. Sherds, fragmentary human bones, chert chips, and limerock boulders had been scattered to the east by this "excavation." We collected some of this material, made various tests, and dug a narrow trench through the apparently undisturbed northern edge of the mound.

Our test trench showed the mound to have been built of clay on a slight natural rise of the valley floor. The edge of Moore's excavation was found about 8 feet from the extreme northern edge of the mound. Mound fill at this location was about a foot thick which, on top of the natural rise of about a foot, gave an apparent elevation of about 2 feet. This elevation was exaggerated by what we took to be the remains of a borrow pit. As the edge of the mound joined the present valley floor, there seems to have been no appreciable deposition of sediments at this point since construction of the burial mound.

Our tests indicated Moore's excavation to have been essentially complete. He describes the mound as being about 4½ feet in height with a basal diameter of 33 feet (Moore, 1907, p. 428). Our observations suggested a height of about 3 feet and a basal diameter of about 60 feet. It would appear Moore replaced the mound after finishing his work but left it lower and larger in area than before.

Moore wrote that "Human remains found were confined to a small fragment of a skull" (Moore, 1907, p. 429). This statement is surprising in view of the numerous fragments of human bones spread by the bulldozer.

Moore mentioned a fairly large amount of pottery for the eastern part of the mound and stated, "The ware is inferior. Gritty tempering is absent. Decoration, when present, consists of the small check stamp; the complicated stamp, faintly impressed; very rude incised line decoration in two instances in sherds; in one case an incised decoration of wavy lines and punctate markings" (Moore, 1907, p. 429). Moore illustrated a small vessel with a flaring rim, decorated on the shoulders and sides of the rim with curved lines bordered by punctations.

Our sherd collection from this mound is listed below. All sherds were surface finds on, in, or around the dirt spread by the bulldozer.

Swift Creek Complicated Stamped, Early Variety (pl. 63, *a*)	1
Swift Creek Complicated Stamped (faint imprints)	24
Indistinct stamped	12
Kolomoki Complicated Stamped (includes pl. 63, *d*, *f*)	7
Weeden Island Punctated (pl. 63, *e*)	1
Weeden Island Plain (rims)	2
Carrabelle Punctated	1
Wakulla Check Stamped	20
Gulf Check Stamped	1
Unique check stamped with punctations (pl. 63, *c*)	1
Unique puctated rim strip (pl. 63, *b*)	1
Red painted	1
Flat base, Kolomoki type	2
Small tetrapodal bases	2
Total	76

Contrary to Moore, all of the above pottery is sand-tempered. There also seems to be a greater diversity than might be suggested by Moore's writings.

DISCUSSION OF SITE JA–2

Pottery from the mound near Kemps Landing should date its construction and give clues regarding its builders. This pottery pertains to the Santa Rosa-Swift Creek period or, at least, very early Weeden Island times (Swift Creek Complicated Stamped, Early Variety and tetrapodal bases), Weeden Island times (Weeden Island Punctated and Wakulla Check Stamped), and the Kolomoki period (Kolomoki Complicated Stamped).

Apparently, the mound was used over a long period of time and during various archeological periods. Probably the builders of the mound lived at sites J–18, Ja–62, and Ja–63. If so they kept their burial place the same although, with changing generations, they moved the site of their village.

In spite of the fact that we found many more human bones than Moore mentioned, the number of individuals interred in this mound would seem to be very few for such a long time. If our theory is right, these villages must have been extremely small—probably representing only one family—or many of the people were buried elsewhere.

SITE J–5

Site J–5 is located on or in the present natural levee of the Chattahoochee River at a point about a half mile northwest of the Jim Woodruff Dam (map 9, *5*). It is situated only a short distance northwest of the confluence of the Chattahoochee and Flint Rivers where they join to form the Apalachicola.

This site is the largest Fort Walton period village on the west bank of the Chattahoochee. In what appears to have been the middle of the site, the levee is reasonably level and about 80 feet in width. Along the levee, parallel to the river, village debris extend some 300 feet.

Upon arrival at the site, we found engineers had dug a drainage ditch from a northern extension of Pope Lake to the Chattahoochee River (map 9). This ditch crossed site J–5 a little southeast of its center (pl. 64, *a*). Eroding out of the engineers' spoil pile were numerous sherds, not only of the Fort Walton period but also from the Deptford and Orange (fiber tempered) periods, and large stemmed projectile points.

Subsequent work in the bank of the drainage ditch uncovered materials of these periods in situ. As a result our work at site J–5 consisted of two projects running concurrently, the uncovering of a large portion of the Ft. Walton village on top of the levee (pl. 70) and excavations of remains of earlier periods in the bank of the drainage

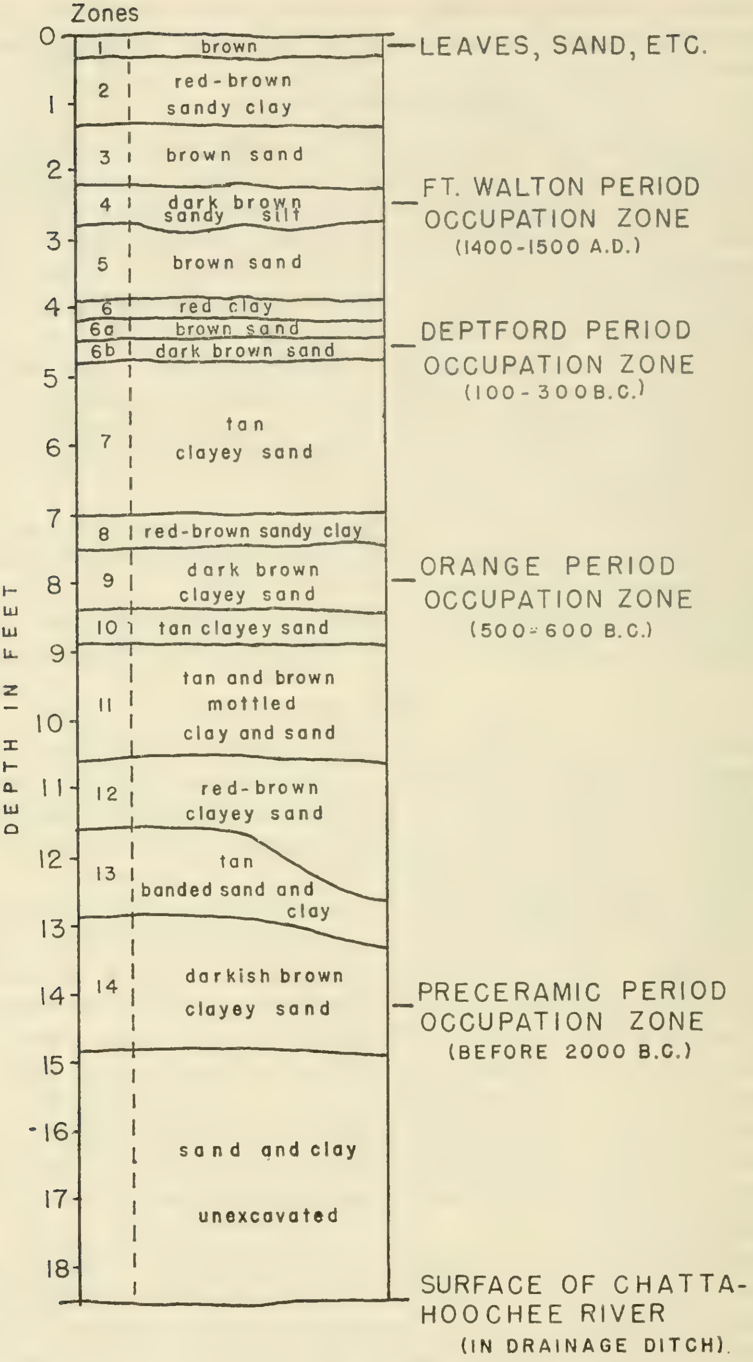
Zones
DEPTH IN FEET
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
1 brown
2 red-brown sandy clay
3 brown sand
4 dark brown sandy silt
5 brown sand
6 red clay
6a brown sand
6b dark brown sand
7 tan clayey sand
8 red-brown sandy clay
9 dark brown clayey sand
10 tan clayey sand
11 tan and brown mottled clay and sand
12 red-brown clayey sand
13 tan banded sand and clay
14 darkish brown clayey sand
sand and clay unexcavated
LEAVES, SAND, ETC.
FT. WALTON PERIOD OCCUPATION ZONE (1400-1500 A.D.)
DEPTFORD PERIOD OCCUPATION ZONE (100-300 B.C.)
ORANGE PERIOD OCCUPATION ZONE (500-600 B.C.)
PRECERAMIC PERIOD OCCUPATION ZONE (BEFORE 2000 B.C.)
SURFACE OF CHATTAHOOCHEE RIVER (IN DRAINAGE DITCH).

FIGURE 12.—Vertical section, site J-5.

ditch (pl. 64). After a discussion of the profile, this work will be described starting with the earlier deposits and proceeding to the more recent.

PROFILE AT SITE J–5

Sides of the drainage ditch sloped inward with depth. To take a profile, we cleared part of the northwestern face and cut a series of steps down to the water (pl. 64, *a*). The resultant profile, omitting the arbitrary steps, is presented in figure 12. After delineation of cultural zones, excavation of lower cultural zones proceeded.

This profile shows the levee to have been built by a succession of alluvial deposits consisting of varying amounts of clay and sand. In four zones, between depths of 2 and 14 feet, cultural material was isolated. These zones continued for a considerable distance from our narrow section, both toward the river and away from it. Over these distances they varied somewhat in thickness from the dimensions in the measured profile (fig. 12).

Away from the river, nearly below the place where the surface of the present levee dips to lower land, these zones also sloped downward. We did not work any great distance from the profile toward the river, so do not know whether or not a similar dip was present in that direction.

These zones also occurred on the opposite side of the drainage ditch, but we did no work on that side as the concentration of cultural materials there did not seem to warrant it.

One major difference in the structure of these deposits was noted. The upper 2 feet, above the Fort Walton zone (fig. 12, zone 4), differed from lower zones. These differences are hard to define but seemed to indicate less compact deposits with more humic materials as inclusions. Whether these differences should be correlated with clearing of land in historic times is a question. Certainly, the Chattahoochee River had many floods a long time before the historic period opened.

ZONE 14, PRECERAMIC PERIOD

Cultural material representing a preceramic period was found in zone 14, between depths of 13 and 15 feet below the surface of the present levee (fig. 12). Zone 14 consisted of medium-coarse, light-brown sand interlaced with dark-brown, sometimes reddish-brown, deposits which were usually very thin but in one case reached a maximum thickness of 2 inches. They seemed to consist of the same medium-coarse sand plus a binder—presumably clay and limonitic salts.

We troweled over 40 square feet of zone 14 to a depth of 2 feet. As the concentration of chips at the periphery of this area was extremely low and the amount of dirt to be moved to enlarge the area would have been tremendous, we decided further work in this zone to be uneconomical.

This work produced a percussion-flaked knife (pl. 65, *d*), a fragment of a thin thumbnail scraper (pl. 65, *c*), 2 quartz hammerstones, three partially worked chips, 145 other chips, 9 broken quartz cobbles, 3 limonitic concentrations, many small, waterworn pebbles, and, occasionally, bits of charcoal. Both medium-large and small chips were included in the collection.

These cultural materials were randomly distributed throughout zone 14 with a little heavier concentration near the middle as opposed to the upper or lower portions. As far as we noted, none of this material came from the brown clayey bands but always from the intervening light-brown sandy portions of the deposit.

DISCUSSION OF ZONE 14

Zone 14 was stratigraphically below a fiber-tempered pottery zone (zone 9) from which it was separated by 4 feet of sterile deposits (excepting zone 12, for which see later). It seems a safe assumption the specimens from zone 14 are preceramic in date. This would date them as at least earlier than 2000 B. C. They might be much earlier.

Typologically, there seems to be no way to date the chipped knife and thumbnail scraper (pl. 65, *c*, *d*). It may be pointed out they would not be out of place in a paleo-Indian lithic complex.

Mention has been made of the random distribution of chips and other objects in zone 14. There was nothing approaching a concentrated zone in which objects were found. This fact, together with the large number of small natural pebbles, suggests these remains may represent redeposited materials. If so, they were not carried any great distance as edges of the knife are very sharp.

ZONE 12

A chert chip was noted for zone 12 (fig. 12) when the profile was taken. Consequently, we removed a small area of this zone before concentrating on zone 9.

This work disclosed two pieces of broken quartz hammerstones or cobbles, three chert chips, and a fragment of worked chert. The concentration did not warrant further investigation.

DISCUSSION OF ZONE 12

Little can be said about these specimens. They do, however, support the preceramic nature of the cultural materials found in zone 14.

Their presence also, it would seem, would tend to support the possibility that material in zone 14 may have been redeposited.

ZONE 9, LATE ORANGE OR TRANSITIONAL PERIOD

As shown on the profile (fig. 12), zone 9 was situated 3 feet below a Deptford period zone (zone 6B) from which it was separated by two sterile zones, one fairly thick and the other relatively thin. It was similarly separated from the lower preceramic zones previously discussed.

Zone 9, varying from 10 to 12 inches in thickness, consisted of medium-fine, dark-brown, clayey sand containing both humic and nitrogenous matter. Upon exposure to the sun, it became extremely hard.

Cultural material was chiefly found in two black to blackish-brown concentrations separated by 20 feet. The intervening area was lighter in color and contained a relatively small amount of cultural material. The concentration further from the present river was the richer and contained near its midpoint (vertically) lenses of mussel shells (pl. 64, *b*).

We uncovered zone 9 for a distance of 50 feet, paralleling the drainage ditch (approximately at right angles to the Chattahoochee River). Over this distance the occupation zone sloped downward away from the river about 2 feet (pl. 64, *a*). A short distance further to the west, this dip became pronounced while cultural material became very rare.

Toward the present river, a sudden dip in zone 9 was noted. Investigation disclosed a shallow pit, 5 feet in diameter and a foot deep. The sides and bottom of this pit were lined with the culture-bearing deposit to a thickness of 3 to 4 inches. Sterile sandy clay, presumably part of zone 8 (fig. 12), deposited by a river flood, comprised the balance of the fill.

Cultural remains found in zone 9 appear to be those of people living on a river levee. Slope of this zone, western location of mussel shells, and eastern location of the pit suggest the river channel at that time may have been to the west instead of to the east of the levee.

We troweled over 300 square feet of zone 9. Sherds and major stone specimens have been listed in table 4 and illustrated in plates 65–68. Material from the eastern and central portions of this zone were not removed by arbitrary zones and have been combined in the third column of table 4. Toward the west, where lenses of mussel shells were found, we divided zone 9 into an upper portion, down to the mussel shells, and a lower portion, including the lenses of shells and the very black dirt below them. This division has been maintained in table 4.

Fiber-tempered pottery from zone 9 contains a small amount of micaceous material. Sherds indicate flat-bottomed, heavy vessels with thick walls which gradually taper to a simple rim a quarter of an inch in width. In one case the base is impressed with woven splint basketry (pl. 68, *e*).

Micaceous material is not present in the chalky paste of the St. Johns series sherds from zone 9. The sherd we have listed in table 4 as "St. Johns Simple Stamped" exhibits decoration reminiscent of the Deptford period (pl. 68, *c*). Possibly the decoration should be called "linear check stamped." This sherd varies in thickness from one-eighth of an inch at one end to a half inch at the other. Shape of the inner wall suggests it came from the junction of the side and bottom of a small vessel having a flat base. This shape and the fact the vessel appears to have been made by modeling suggests similarities to the Wheeler series (Sears and Griffin, 1950).

Projectile points fall into two classes: medium-sized points that usually have bifacial symmetry (pl. 66, *a–g*), and large spear points or knives which tend to be flatter on one side than the other (pl. 66, *h–i*).

Stemmed scrapers have bases duplicating those of stemmed points. Of these scrapers, some appear to have been originally made as stemmed scrapers (pl. 67, *a–f*). Others undoubtedly represent scrapers made from broken points (pl. 67, *j–o*). Three might fall into either category (pl. 67, *g–i*).

Unillustrated is a scraper made from a thin, nearly circular flake. The periphery of this flake, except for the area near the bulb of percussion, has been vertically chipped to form a large, but very thin, thumbnaillike scraper, 1½ inches in diameter.

One small tool we have referred to as graverlike (pl. 65, *a*, *b*). In the illustrations this tool has been rotated so that chipping scars could be seen. Both sides have been steeply chipped to produce scraperlike edges. The chipping has been continued to the end (pl. 65, *a*, *b*, left) leaving a sharp, screwdriverlike end. The other end does not seem to have been worked but appears to have shattered as if it had been the recipient of a hard blow. This specimen may have been a multipurpose tool, combining the functions of scraping and incising.

A large adzlike tool is intentionally notched (pl. 68, *l*). These notches are smoothed or battered as if to prevent the cutting of lashings, suggesting this tool probably was hafted. Except for these notches, this specimen is similar to large adzlike tools found at Johns Island on the central gulf coast of Florida in a very early, post-fiber-tempered ceramic horizon (Bullen and Bullen, 1950).

TABLE 4.—*Distribution of pottery, steatite, and chert tools at zone 9, site J–5*

Specimens	Western area		Eastern and central areas	Total	Illustrations
	Upper	Lower			
Sherds:					
St. Johns Simple Stamped			1	1	Pl. 68, *c*.
St. Johns Incised	3			3	Pl. 68, *a–b*.
St. Johns Plain	6	1	7	14	
Orange Incised (?)	1			1	
Orange Plain	39	8	138	185	Pl. 68, *d–f*.
Steatite sherds			7	7	Pl. 68, *i*.
Total	49	9	153	211	
Chert tools:					
Stemmed points, medium sized	6		14	20	Pl. 66, *a–g*.
Stemmed points, large		2	1	3	Pl. 66, *h–i*.
Stemmed scrapers	3	1	11	15	Pl. 67.
Elongate drills or points			2	2	Pl. 66, *j*.
Trianguloid knives	2			2	Pl. 66, *k–l*.
Large adzlike tool			1	1	Pl. 68, *l*.
Graverlike tool			1	1	Pl. 65, *a*, *b*.
Turtleback scraper			1	1	Pl. 68, *k*.
Flake disk scraper		1		1	
Fragment large knife			1	1	Pl. 68, *j*.
Total	11	4	32	47	

Other stone tools and specimens include 60 worked fragments and about 50 utilized flakes. The latter are flakes from one or more edges of which tiny chips have been removed either intentionally or incidental to use. In a few cases careful chipping for a short distance along one edge has produced side scrapers made on flakes.

Worked fragments include tips and other unclassifiable portions of broken tools. In the collection are 25 tips and 15 broken bases. This difference in number becomes negligible if scrapers reworked from broken points are considered.

Over 4,500 chert chips, 150 fragments of broken quartz cobbles, 25 broken pieces of micaceous rock, 23 limonitic concretions, 4 pieces of limestone, and 650 small natural pebbles were also collected. Their distribution was proportionally about as shown in table 4 for stemmed points except that no micaceous rocks were found in the lower part of the western area while three of the four examples of limestone were in that location. Chert, quartz cobbles, micaceous rocks, and limestone fragments were, presumedly, brought to the site by the inhabitants. Limonitic concretions and natural pebbles were undoubtedly part of the matrix in which cultural materials were found.

Two specimens of bone are illustrated, an awl and a piece of worked antler tine (pl. 68, *g–h*). The latter has been faceted as if to sharpen it.

Food remains include charred nuts (two fragments), deer bones (92 fragments), turtle bones (37 examples), various mussel and snail shells, and 1 bone each of the opossum, lynx, beaver, and muskrat.

The dentary of a muskrat (*Ondatra zibethica*) [5] represents the only known post-pleistocene record of this animal in Florida. It came from the upper part of the western area of zone 9, apparently the latest part of this deposit.

Mussel shells include representatives of seven species belonging to five genera: *Amblema perplicata* Conrad; *Quadrula mortoni* Conrad; *Quincuncina securformis* Conrad; *Lampsilis subangulata* Lea; *Elliptio incrassatus* Lea; *Elliptio sloatianus* Lea; and *Elliptio fraternus* Lea.[6] Snails were restricted to two forms: *Campeloma geniculum* Conrad and *Vivaparus contectoides goodrichi* Archer.[6]

Food bones were practically nonexistent in the central and eastern areas of zone 9. It was only in the western area, near the lenses of mussel and snail shells, that bone material was found. Undoubtedly, such material was present originally in the other areas but was completely eaten away by ground acids.

DISCUSSION OF ZONE 9

Excavations in zone 9 at site J–5 uncovered artifacts of a small group of Indians who lived on a river levee. Here they brought chert and other materials to make weapons with which they hunted deer and other animals. This animal food they supplemented with nuts and shellfish. The hafted, adzlike tool suggests they may also have collected roots.

The variety of their containers, available for the preparation of this food, is truly surprising. Not only did they have fiber-tempered and steatite vessels but also those made of chalky paste. Presence of St. Johns Incised vessels indicate communication with peninsular Florida while the steatite vessels must have come from central Alabama or central Georgia. Evidently, the inhabitants of the Forks area in late fiber-tempered times were not living in a vacuum.

The nearest place for which St. Johns Incised sherds have been reported, to my knowledge, is the Cedar Key area some hundred and fifty air miles to the southwest of Chattahoochee. From there southward and in the St. Johns River drainage, this pottery type is known in some quantity.

It will be noted from the site profile (fig. 12) that material pertaining to the Deptford period was found at site J–5 about 3 feet higher than the fiber-tempered zone.

It seems evident Indians were living on the banks of the Chattahoochee River, making and using fiber-tempered pottery, at a time after St. Johns ceramics had been developed in peninsular Florida. Influences from the latter area must have reached the Chattahoochee region before influences from the Deptford period of eastern or central Georgia reached the same region. Apparently, then as now, communication was easier along the more or less level coastal plains and up river valleys than across hills and mountains.

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[5] Kindly identified by Dr. Harley B. Sherman, Department of Biology, University of Florida.

[6] Kindly identified by Dr. William E. Clench, Museum of Comparative Zoology, Harvard University.

The time span for St. Johns Incised pottery is generally considered to be rather short. If so, it would appear to have spread rather rapidly. Such, however, may be an error in our interpretation. A considerable culture lag may have occurred in the Chattahoochee region.

A possible explanation for the apparent rapid diffusion of St. Johns ceramics to the lower Chattahoochee area may be suggested. It seems probable steatite vessels in Florida are limited in time to the last part of the Orange or fiber-tempered period (Bullen, 1954). Possibly traders carried these containers from their place of origin in Alabama and Georgia to peninsular Florida. One such enterprising trader may, after the development of chalky pottery, have taken some St. Johns Incised vessels on his return trip north.

We would place the remains found in zone 9 as having been deposited during a transitional period when chalky and sand-tempered pottery was replacing fiber-tempered ceramics. Samples of charcoal from this zone were sent by the Florida State Museum to Dr. James B. Griffin who kindly arranged to have them tested at the University of Michigan Memorial-Phoenix Project Radiocarbon Laboratory. The resultant date is 1200 B. C. plus or minus 250 years. This date represents our first indication of when the fiber-tempered period ended. Apparently, its close was earlier than previously estimated (Goggin, 1950 a).

ZONE 6B, DEPTFORD PERIOD

While cutting back the bank of the drainage ditch to uncover more of zone 9, a sherd was found in situ at an elevation 34 inches higher than the top of the fiber-tempered zone. Investigation defined a narrow, dark-brown, sandy zone about 4½ feet below the present surface of the levee. This zone is indicated in the site profile as zone 6B (fig. 12).

It had been relatively easy to excavate in zones 14 and 9 because the dragline, in digging the drainage ditch, had left the lower part of the bank with sloping sides and not too much overburden. Zone 6B, however, was located fairly high up in the bank where the sides were rather steep. This made excavation difficult because of the overburden. As the portion of zone 6B that we encountered was not very productive, we contented ourselves with the procurement of a sample for cultural determination.

To get a rough idea of the extent of the Deptford occupation zone, we dug a test hole in square B5 of the Fort Walton zone (fig. 13). This

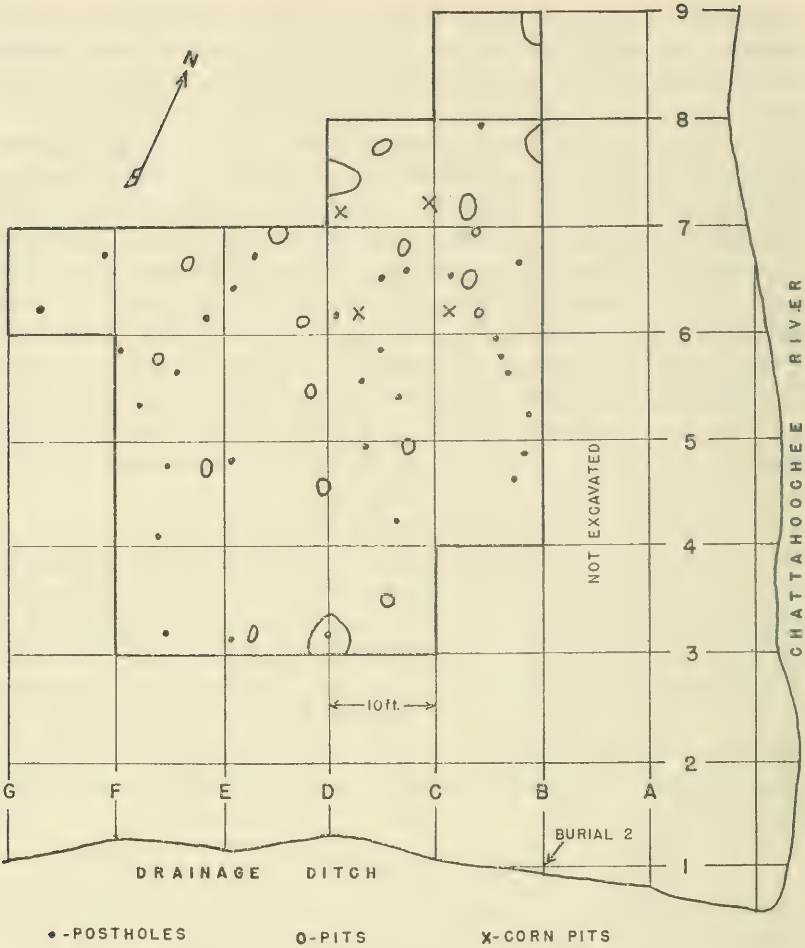
N
S
9
8
7
6
5
4
3
2
1
G
F
E
D
C
B
A
10 ft.
NOT EXCAVATED
CHATTAHOOCHEE RIVER
BURIAL 2
DRAINAGE DITCH
• -POSTHOLES
O-PITS
X-CORN PITS

FIGURE 13.—Excavation plan, Fort Walton zone, site J–5.

test produced a plain, sand-tempered sherd and a charred nut at a depth of 2 feet below the base of the Fort Walton zone. It was evident the Deptford remains, although not plentiful, covered at least a distance of 45 feet parallel to the river.

Work in zone 6B produced a part of a charred nut, rarely a bit of calcined bone, 2 or 3 chert chips, and 14 sherds. These sherds have been classified as 2 Deptford Simple Stamped (pl. 69, *a*), 6 Deptford Linear Check Stamped (pl. 69, *b–d*), 6 plain, sand-tempered including a tetrapod and part of a tetrapodal base (pl. 69, *e*).

These sherds were very sandy, contained small, rounded quartz grains as temper, and had a fair amount of micaceous inclusions. That they pertain to the Deptford period of the Southeast seems evident.

DISCUSSION OF ZONE 6B

Our work in zone 6B sheds very little light on occupation of the Chattahoochee area by people of the Deptford period. It does, however, indicate that such a phase in the history of the area occurred. Its stratigraphic position over fiber-tempered pottery and, in this case, below Fort Walton ceramics (fig. 12) is not, of course, new information. It is, however, nice confirmation of the sequence of cultures in the area.

We do not know whether zone 6B represents what might be called "early" or "late" Deptford. That it was found stratigraphically above and separated by over 30 inches of sterile deposit from a cultural zone containing ceramics of the St. Johns series of Florida has important implications regarding the dynamics of culture spread. The Chattahoochee area is peripheral to the centers and presumed places of origin of both Deptford and St. Johns ceramics. In such peripheries local sequences may not necessarily reflect temporal relationships at the centers or places of origin. St. Johns ceramics may have started before the Deptford period but the situation at site J–5 does not present a demonstration of that possibility.

ZONE 4, FORT WALTON PERIOD

As shown in the site profile (fig. 12), the Fort Walton period occupation zone at site J–5 occurred at a depth of more than 2 feet below the present surface of the levee. This zone had been tested during the 1948 survey and the site selected for excavation with the expectation of securing posthole patterns to indicate the size and shape of aboriginal houses (Bullen, 1950, p. 115).

Operations were started by having a bulldozer remove part of the overburden. In a short time bulldozer tracks were turning up lenses of blackish dirt containing sherds. The bulldozer operator was thanked for his help, a grid of 10-foot squares was laid out, and excavation was started in which shovels were used (pl. 70, *a*).

Excavation was made by arbitrary 4-inch levels after the top of the occupation zone was encountered. A pottery analysis by these zones will be found in table 5 and an excavation plan in figure 13. Selected examples of ceramic arts are illustrated in plates 71 and 72.

While the site profile (fig. 12) shows the Fort Walton zone (zone 4) to have been about 6 inches in thickness, such was not true for the excavated area. Elevations of both the upper and lower limits of the occupation zone varied. Usually, this zone was about 10 inches in thickness, but it decreased toward the southwest, away from the river. The richest part of the excavated area was toward the present river (fig. 13, trench B). Irregularities in the upper "surface" of the cultural zone were interpreted as piles of dirt resulting from aboriginal activities such as the digging of pits.

The excavation plan shows the location of 30 postholes (fig. 13). They were filled with blackish-brown or mottled dirt, and 15 of them contained one or more sherds. Diameters varied from 4 to 9 inches but only 3 were less than 6 inches in width. Lengths or vertical dimensions below the base of the cultural zone varied from 5 to 18 inches but over half measured between 7 and 10 inches in this respect. Bottoms of postholes were recorded as pointed, rounded, flat, or diffuse. Typically, they were rounded or flat.

These postholes represent houses and other structures such as drying frames, etc. Their horizontal distribution, as shown on the excavation plan (fig. 13), suggests houses with straight sides, but a definite outline of a dwelling was not found.

Locations of 21 pits are also shown on the excavation plan (fig. 13). These may be divided into three groups: large, small, and "charred corn" pits.

Large pits were nearly 5 feet across and 8 to 15 inches in vertical dimension. They contained black-brown dirt and a few sherds. One also contained a few burnt animal bones. Another was stratified to the extent that its upper part was filled with black-brown dirt while red-brown dirt and burnt clay were found in the lower part.

Small pits varied from those with a diameter of 12 inches to the largest with an oval mouth, 24 by 30 inches across. Their apparent vertical dimensions varied from 5 to 14 inches. Practically all contained black-brown dirt in which a few sherds were found. Charcoal was also noted in seven cases and burnt bone in four cases. One pit, in square B7, contained black-brown dirt, charcoal, mussel shells, burnt bone, and charred corn.

Except for size we could see no difference between "large" and "small" pits. All were dug for some purpose—a few apparently as fireplaces, others presumably for storage. All became filled with midden debris. Usually, pits were not identified until the base of the cultural zone was reached. In a few cases they were noted at higher elevations, indicating they had been dug after the site had been occupied for some time.

What we have designated as "charred corn" pits may have possible ceremonial implications. Their locations, as indicated on the excavation plan (fig. 13) by X's, approximated a square with corners at the cardinal points. All had circular mouths, nearly straight sides, conical bottoms, and vertical dimensions of 10 to 12 inches. Those shown on the excavation plan as being located toward the west and north were 12 and 16 inches in diameter while the other two were 5 and 9 inches in this respect. The one in square C6 contained a few plain sherds near the bottom. Otherwise, they were filled with closely packed charred corn, both kernels and cobs. The apparent mouths of these pits were encountered about midway, vertically, in the occupation zone.

Two burials were found at site J–5. Burial No. 1 was exposed on the slope of the drainage ditch when we arrived at the site. It was located about 6 feet below the top of the ditch but investigation indicated it was not in situ. The remains of this burial consisted of a mandible and a fairly thin fragment of a skull cap. The mandible exhibited shovel-shaped incisors and incompletely erupted third molars.

Based on the assumption these fragments had fallen down from higher up and on the presence on the side of the ditch near them of seven plain sherds of Fort Walton paste, we believe these bones represent a pit burial of the Fort Walton period disturbed by dragline operations.

Burial No. 2 was found while working in the Deptford period zone (zone 6B). Its location, below stake B1 (fig. 13), was close, horizontally, to that of burial No. 1.

Burial No. 2 had been interred in a pit dug down from the base of the Fort Walton zone a distance of 2 feet. This pit was 3 feet in diameter, at its mouth, and filled with yellow-brown and dark-brown dirt. Mixed with this dirt in the burial shaft were the tooth of a deer, 2 chips of chert, occasional bits of charcoal, 6 Fort Walton Incised and 22 plain sherds made of Fort Walton paste. Two more plain sherds were between the bones and the base of the pit.

This burial consisted of a bundle of long bones, in an area 7 by 13 inches, with a skull placed near the southern end of the long bones. The skull was on its back, face up, with its major axis perpendicular to that of the long bones. Bones were in fragmentary condition. Incisor teeth were shovel shaped. Some molars showed wear and some did not.

Probably both burials were those of youths in their late teens at time of death. No evidence was present upon which to base an appraisal of sex.

Sherds from the Fort Walton zone at site J–5 have been classified and tabulated by the arbitrary 4-inch collecting zones in table 5. Practically every sherd contains some micaceous material. This statement applies to the shell-tempered Pensacola series, which have a relatively small amount of micaceous inclusions, as well as to the others which are tempered with quartz sand. Typically, Lake Jackson sherds contain more tempering material and have "pebbly" exterior surfaces while those of the Fort Walton and Pinellas series have well-smoothed exteriors. Many sherds exhibit the smooth, frequently black, interior surface that is a feature of Fort Walton ceramics.

The total number of sherds seems large for the area excavated. This fact reflects the relatively small size of individual sherds. Fresh breaks were not numerous so the smallness of sherds cannot be attributed to the weight of the bulldozer that removed part of the overburden. Probably the smallness of sherds was caused by much incidental trampling by occupants of the site.

Vessels shaped like water bottles are only indicated by sherds in one or two cases.

Other ceramic specimens include three fragments of clay smoking pipes, eight pottery disks (pl. 71, *d–e*), burnt daub, and the representation of a human leg (pl. 71, *a*). Interestingly, five notches have been cut in the foot to indicate toes, resulting in the appearance of six toes. If this pottery leg was part of a larger human figure, no possible additional fragments were found.

TABLE 5.—*Vertical distribution of pottery in Fort Walton zone, site J–5*

Pottery types	Depth below top of zone			Total	Illustrations
	0–4 inches	4–8 inches	8–12 inches		
Fort Walton Incised, subtype A	87	79	55	221	Pl. 72, *d–f*, *h*, *j–l*.
Fort Walton Incised, subtype B	13	12	2	27	Pl. 71, *f*; 72, *g*, *i*.
Safety Harbor Incised	2	2	1	5	Pl. 72, *a-c*.
Pinellas Incised, subtype A	10	9	6	25	
Pinellas Incised, subtype B	15	33	4	52	
Pinellas Incised, subtype C	4	--------	--------	4	
Marsh Island Incised	5	24	21	50	Pl. 71, *g*, *n*.
Pensacola Incised	--------	5	--------	5	Pl. 71, *o*.
Lake Jackson Plain, notched rims	23	11	3	37	
Lake Jackson Plain, subtype A	16	12	8	36	Pl. 71, *j–m*.
Lake Jackson Plain, subtype B	18	2	4	24	
Lake Jackson Plain, subtype C	12	19	9	40	Pl. 71, *h*.
Lake Jackson Plain, subtype D	2	--------	2	4	
Alachua Cob Marked	--------	--------	1	1	Pl. 71, *i*.
Adornos	1	--------	1	2	
Miscellaneous incised	51	52	30	133	
Miscellaneous punctated	2	10	7	19	
Miscellaneous check-stamped	--------	3	--------	3	
Miscellaneous complicated-stamped	--------	2	--------	2	
Red painted	--------	2	--------	2	
Scored surface	1	4	9	14	
Pensacola Plain	39	41	26	106	
Plain, Fort Walton paste	2,011	2,066	1,047	5,124	
Total	2,312	2,388	1,236	5,936	

Polished stone is represented by two fragments of greenstone celts found in the 8- to 12-inch level. A small piece of sandstone from the highest level resembles a plummet. Rough stone specimens include 3 pitted stones, 2 of sandstone, and 1 of limestone, all from lower levels. Eight fragmentary sandstone grindstones were nearly equally divided between the three levels, as were 11 fragments of limonitic sandstone.

Meager use of chipped stone during Fort Walton times is indicated by the basal fragment of a broad, side-notched point, two other worked fragments, a utilized flake, and 285 chert chips. Two quartz hammerstones and 19 broken quartz cobbles complete the inventory of stone specimens.

Food remains, because of extremely poor preservation, are limited to the following: 20 fragments of animal bones—mostly those of deer—4 turtle bones, small amounts of calcined bone, a fragment of a *Busycon* shell, a few mussel shells, and the corn previously mentioned. The *Busycon* fragment probably represents a shell tool and not food, because of the distance from the site to the Gulf of Mexico.

Samples of the corn were sent to Dr. Paul C. Mangelsdorf of the Botanical Museum of Harvard University, whose colleague, Dr. Galinat, has kindly supplied the following description:

Kernels.—All kernels are carbonized and largely devoid of embryos. They have a smooth undented crown and so were of either the flinty or floury endosperm type. The kernels are relatively short, wide, and thick as shown in the following tabulation (measurements in centimeters):

Number of kernels:	*Length*	*Width*	*Thickness*
34	0.82	0.93	0.46
25	.81	.91	.47
28	.82	.97	.49
49	.82	.95	.47

Cobs.—There was one well-preserved, carbonized rachis fragment. The circumference of this cob at the cupule level was intact. It was devoid of all floral bracts and cupule hairs. Detailed data on this one fragment follow:

Cupule: width, 0.78 cm.; height, 0.30 cm.; depth, 0.15 cm.
Cupules per cm. of cob length: 0.47
Rachis diameter: 1.20 cm.
Fragment length: 2.5 cm.

This cob fragment was from a 10-rowed ear, although it may have been 8-rowed at the distal end since two of the uppermost cupules are latterly fused. There were 20 other very small cob fragments, some with fragmentary glumes attached. When these glumes were removed, the cupules beneath lacked pubescence indicating that they were glabrous.

Dr. Mangelsdorf added that while the kind of corn cannot be determined from one rachis fragment, the width of kernels in relation to their length and the smooth undented crowns of the kernels strongly suggest this sample to be one of the Caribbean flint corns.

DISCUSSION OF ZONE 4

Excavations in zone 4 at site J–5 uncovered the remains of a Fort Walton period Indian village situated on the natural levee of the Chattahoochee River. Scarcity of stone implements and of river mussel shells suggests the inhabitants to have been farmers depending chiefly on crops for their sustenance. The site is situated in a silt-sand zone which should have made excellent farmland. Fairly abundant amounts of charred corn would seem to substantiate this theory.

Charcoal from this Fort Walton zone was sent by the Florida State Museum to Dr. James B. Griffin, who kindly arranged to have radiocarbon dating done by the University of Michigan Memorial–Phoenix Project Radiocarbon Laboratory. The result, 1400 A. D., plus or minus 200 years, would appear to be about in the midpoint of the Fort Walton period based upon our present ideas. The following discussion would seem to agree with this radiocarbon date.

That the site was occupied for some time is evident by the thickness of cultural deposits and the number of pits and postholes. It is confirmed by the fact pits were dug from different levels of the deposit. Presumedly, much of the silt and sand of the cultural zone was brought by floods, which, in part, occurred during the period of occupation. Such recurrent floods may have been one reason for the abandonment of this village.

As the occupation seems to have occurred over an appreciable period of time, it is of interest to examine table 5 to see if any suggestions of changes in material culture during occupation may be found. Such indications are not great but a few suggestions may be pointed out.

Marsh Island Incised seems to be decreasing in favor while notched rims and Lake Jackson Plain, subtype C, increased in quantity during the life of this village. To a lesser extent, Fort Walton Incised, subtype B, seems to be increasing in popularity with time. Sherds of Pinellas Incised C, although few in number, were all limited to the highest zones. This indicates a greater preference for handled vessels and notched lips with, possibly, a decline in punctation as opposed to incision for decoration.

Griffin in his analysis of pottery from the Lake Jackson site, about 40 miles to the southeast, presented conclusions suggesting Fort Walton Incised, Subtype A, Pinellas Incised A, and Marsh Island Incised to be relatively early and Pinellas Incised B and Pinellas Incised C, together with handles and lip notching, to be relatively late during the Fort Walton period (Griffin, 1950). Examination of the vertical distribution of these pottery types and features in table 5 tends to substantiate Griffin's earlier conclusions based on a mathematical treatment.

A surprising result of excavations in the Fort Walton zone at site J–5 was the lack of substantial amounts of check-stamped pottery. Only 3 out of nearly 6,000 sherds were check stamped. This cannot be explained upon the basis of an insufficient sample. Yet, during the 1948 survey, 32 out of 234, or over 13 percent, of all sherds from this site were check stamped (Bullen, 1950, table 2, p. 112).

The explanation of this discrepancy seems to be that the 1948 tests were made in the southern end of the site, while the 1953 work was done toward the north. This horizontal difference may be chronological or ethnological.

At the Lake Jackson site, also of the Fort Walton period, only 9 check-stamped sherds were found out of a total of about 8,000 (Griffin, 1950, pp. 104, 106). Check-stamped pottery from both J–5 and the Lake Jackson site is not good Wakulla Check Stamped such as is typical of the Weeden Island period. It might be considered "decadent" Wakulla. The Weeden Island type of rim has disappeared while the checks have taken on a pronounced linearity. Check-stamped pottery of this nature, but made of chalky paste, was found at the Safety Harbor site, which is of the same temporal position as Fort Walton but located on Tampa Bay (Griffin and Bullen, 1950, pl. 1).

These data suggest the possibility the Fort Walton period might be divided into four subperiods. The earliest would contain fair amounts of check-stamped pottery—a holdover from Weeden Island times (Willey, 1949, p. 458; Bullen, 1950, pp. 112–118)—as well as Fort Walton Incised, subtype A, Pinellas Incised A, Marsh Island Incised, and other pottery types. The next phase would have no check-stamped pottery but both the Fort Walton Incised, subtype A, and the Pinellas Incised B ceramic complexes. During the third phase, an ascendency of the Pinellas Incised B complex should be noticeable. The fourth phase would be similar to the third phase but for the introduction of European-derived artifacts. These phases are not meant to be exclusive but are suggested merely as nodes on a continuum.

To judge from a comparison of the inventory from the Safety Harbor site with those from Lake Jackson and site J–5, these ceramic changes are more pronounced in northwest Florida than in the Tampa Bay area. If influences causing these changes came from the north and west, as is believed to be the case, time for such dispersal must be allowed. Hence, the third phase might be present in west Florida at a time when the second phase was still present further east.

It was suggested earlier that four pits filled with charred corn might have ceremonial implications. It will be remembered these pits were arranged in the form of a square whose corners approximated the cardinal points (fig. 13, pits indicated by X's). The following quotations referring to Creek busks seem pertinent.

> To make the fire, four green sticks are cut from tree limbs. . . . These are known as 'the back logs'. . . . Four roasting-ears are placed across the back sticks. . . . Then kindling, hay, or other dry stuff is placed on the top and ignited by rubbing two dry sticks lengthwise over it. [Swanton, 1928, p. 555.]
>
> Early in the morning of that day before sunrise four green logs about a yard long were brought in, placed in a cross shape, each stick towards one of the cardinal points, and . . . fire was started where they all came together. . . . The sticks were named after the points of the compass. . . . Four roasting ears

> were brought in by persons who had special charge of them, but my informant did not know what was done with them. [Swanton, 1928, p. 588.]
>
> After the fire is produced, four young men enter the openings of the four corners of the square, each having a stick of wood for the new fire. . . . After the fire is sufficiently kindled, four other young men come forward in the same manner, each having a fair ear of new corn, which the priest takes from them, and places with great solemnity in the fire, where it is consumed. [Swanton, 1928, pp. 583–4.]

Possible similarities between the content of these quotations and the archeological situation found in the Fort Walton zone at site J–5 include the four cardinal points for orientation of the fire and the ceremonial burning of four ears of corn. These similarities are not too specific but they do seem to suggest a possible connection between the four pits filled with charred corn, which were oriented toward the cardinal points, and later Creek ceremonies.

SITE G–4, CHATTAHOOCHEE LANDING

Several mounds are located at Chattahoochee Landing on the east bank of the Apalachicola River just south of Route 90 (map 9, *4*). These mounds were investigated in 1902 by Moore who decided they were domiciliary in character (Moore, 1903, pp. 491–492). Except for the fact that one would seem to be a "temple" mound there is little to add to Moore's comments regarding the mounds.

During the 1948 survey, sherds were collected and a small midden located at this site (Bullen, 1950, pp. 112–113). As this midden was gradually being destroyed, half the crew under the direction of Glenn T. Allen, Jr., then a graduate student in anthropology at Florida State University, Tallahassee, spent a day making a stratigraphic test. Appreciation is due the Chattahoochee Sand and Gravel Co. for permission to do this work.

Our test was a trench, 5 by 15 feet, excavated by arbitrary 4-inch levels. The profile consisted of a superior zone of recently disturbed material, 2 inches in thickness, which covered a dark-brown sandy deposit that varied from 8 to 11 inches in thickness. Below was a red-brown sandy deposit, ranging between 11 and 14 inches in thickness, which rested on sterile clay. Color differences of the upper and lower sands were probably the result of soil profile processes plus a heavier concentration of charcoal and other occupational debris in the upper sand.

Near the middle of the trench, at a depth of 12 inches, was what appeared to be the remains of a meal. A small deposit of mussel shells intermixed with sherds was flanked by the femurs of a deer and other small animal bones. About 4 feet away and at a depth of 17 inches was a small deposit of burnt animal bones mixed with charcoal, apparently the remains of another meal.

The vertical distribution of sherds and objects of stone in this test is given in table 6. Illustrated sherds will be found in plate 73.

Sherds from site G–4 are sand tempered and made from clay containing a small amount of micaceous material. A common feature is a smooth, frequently black, interior surface. This is a characteristic of ceramics of the Fort Walton period. Usually, check-stamped sherds from site G–4 exhibit marked linearity of the stamping.

Table 6.—*Vertical distribution of pottery and stone at site G–4*

Pottery and stone	Depth below surface						Total	Illustrations
	0–4 inches	4–8 inches	8–12 inches	12–16 inches	16–20 inches	20–24 inches		
Pottery types								
Alachua Cob Marked	--------	1	2	2	--------	--------	5	
Fingernail indented	--------	--------	1	--------	--------	--------	1	Pl. 73, *c*.
Wakulla Check Stamped	--------	--------	3	3	--------	--------	6	Pl. 73, *d*.
Medium-sized rectangular check stamped.	6	24	31	6	3	--------	70	Pl. 73, *e*.
Large rectangular check stamped	--------	1	9	4	--------	--------	14	Pl. 73, *a–b*.
Linear check stamped	--------	--------	--------	1	--------	--------	1	
Indistinct stamped	--------	4	--------	--------	--------	--------	4	
Miscellaneous complicated stamped.	--------	1	1	--------	--------	--------	2	
Miscellaneous incised	--------	1	--------	--------	--------	--------	1	
Sand-tempered plain	18	50	44	10	1	--------	123	
Total	24	82	91	26	4	--------	227	
Stone objects								
Worked chert fragment	--------	--------	1	1	4	1	7	
Chert chips	12	48	65	41	42	11	219	
Broken quartz cobbles	1	4	7	10	12	1	35	
Total	13	52	73	52	58	13	261	

These check-stamped sherds are similar to those from the Fort Walton zone of site J–5 but differ from those found at sites J–18 and Ja–62 and in the Deptford zone at site J–5. Those from G–4 were made of a less sandy paste and have the smooth, frequently black, interior surfaces lacking at sites J–18 and Ja–62. They do not have a Weeden Island type of rim. There is less difference, however, in the character of the stampings themselves.

DISCUSSION OF SITE G–4

It seems probable our small test should not be considered representative of the large Chattahoochee Landing site. It does, however, pertain to some phase of life at the site and, to judge from the pottery analysis (table 6), a reasonably “pure” phase.

One of the problems of the Chattahoochee-Flint River area has to do with what have been called “pure Wakulla sites,” i. e., sites at which only check-stamped and plain pottery are found. Examination of the pottery distribution (table 6) shows that the portion of site G–4 that we tested would nearly qualify as one of these pure check-stamped sites, as 40 percent of all sherds, or 85 percent of decorated sherds, exhibit some form of check-stamping. There is one difference, however, as sherds from "pure Wakulla sites" frequently exhibit a Weeden Island type of rim which was, apparently, absent at site G–4.

As mentioned above and also as found during the 1948 surface survey of this site (Bullen, 1950, p. 113), check-stamped pottery from site G–4 exhibits distinct linearity. Many are beyond the range of "good" Wakulla Check Stamped.

In order to throw as much light as possible on this problem, sherds were classified descriptively for the pottery distribution table (table 6). As will be noted, the vertical distribution of check stamp variations indicates little, if any, change in style during the life of this midden. All of the illustrated sherds (pl. 73) were found in the same zone, between depths of 8 and 12 inches.

Although we have indicated a doubt that the material from our test should be considered representative of the Chattahoochee Landing site, such a possibility cannot be eliminated since check-stamped pottery was the dominant type in the surface collection made in 1948 (Bullen, 1950, p. 112, table 2).

Due to the presence of flat-topped temple and domiciliary mounds as well as the ceramic traits of smooth, black, interior surfaces and a Fort Walton type of paste, it seems reasonable to assume the Chattahoochee Landing site belongs to the Fort Walton period. Based on the division of the Fort Walton period suggested earlier, this midden would have to be very early in Fort Walton times. Lack of any appreciable quantity of Fort Walton Incised sherds from either our test or from the 1948 surface survey is surprising.

At site G–4 we were able to work only in the last remaining portion of the midden. We have been told a whole mound and much of the midden have eroded away during the past 50 years. Such erosion may have removed typical Fort Walton period material. Perhaps the site may have been a ceremonial center at which only a very few people lived.

SUMMARY AND CONCLUSIONS

Excavations in June 1953 near the Chattahoochee River in northwest Florida substantially increased our knowledge of the prehistory of that area. For the first time a village of the fiber-tempered period was located and investigated. Previously, this period was known for the Chattahoochee area only from a few sherds found in scattered surface collections. The quantity of stone tools uncovered in the fiber-tempered zone at site J–5 is greater than that from all previously excavated and tested fiber-tempered sites in all of Florida. The presence of St. Johns Incised sherds in this fiber-tempered zone not only extends the known range for very early chalky pottery in Florida but also gives us important clues regarding culture dynamics at the end of the fiber-tempered period.

The stratigraphic sequence at site J–5 was most satisfactory, confirming for the Chattahoochee area major sequences determined elsewhere. Site Ja–63 is the first pure site of the Kolomoki period found in Florida. Data regarding other local archeological problems was also secured. These points, and in three cases radiocarbon dates, have been discussed after the description of the work done at each site.

The Chattahoochee, Flint, and Apalachicola River systems form a natural highway from the Gulf of Mexico to eastern Alabama and to central and north-central Georgia for people using water transportation. Near the Forks, where these three rivers join, it is not surprising to find evidence of occupation extending backward for many centuries from the archeological recent. The concentration of sites near the Forks and the presence there of people during practically all known archeological periods is a classic example to substantiate the theory that the life of early people was closely related to rivers.

The site location map (map 9) covers the Forks area but does not give the location of all known sites. Additional locations will be found on the map accompanying the 1948 survey (Bullen, 1950, fig. 1, p. 102). The following resumé of the archeology of the Forks area is limited to a more or less rectangular section of land extending from Kemps Landing to the Jim Woodruff Dam. It is bordered on the northeast by the Chattahoochee and Apalachicola Rivers and extends southwesterly a mile and a half (map 9). In this small area of about 6 square miles are 19 known archeological sites. There are important sites on the opposite side of the Chattahoochee River as well as on the Flint River, but, since they are in Georgia and pertinent information is not available, they will not be considered.

The area to be considered consists of two distinct geographical zones. One is the high land to the southwest of the 80-foot contour. This land is never flooded by the river and is composed of clay beneath a shallow, sandy humic zone. Where deforestation has not occurred it is covered with pines.

The other zone consists of the river-bottom land which has been subjected to flooding for many centuries. It is characterized by shallow sloughs and low rises. These may be the remnants of old river channels and levees. The present natural levee of the Chattahoochee River is the highest land in this zone. Some of the sloughs, like Tan Vat Pond and Pope Lake, always contain water. Their size varies with rainfall and the length of time since the last flood. Even in dry spells they are maintained as ponds by small springs fed from the higher land. This bottom land supports a luxuriant growth of trees and vines of various kinds. Except at the edge of the river or near clearings, where the sun can penetrate, the bottom land is relatively free from underbrush.

The location of the river channel has, from time to time, changed, but it is not believed the general character of the bottom land or of the high land has changed much in many centuries. These two geographical zones are separated at the 80-foot contour by the very steep and high wall of the river valley. This sharp division is not evident from the map but nearly all of the difference in elevation between the 60- and 100-foot contours occurs at the location of the 80-foot contour (map 9).

The first human being near the Forks was, presumedly, a wandering paleo-Indian hunter following the remnants of a Pleistocene fauna. We have no definite evidence for such a man in the area under discussion. However, points similar to Clovis Fluted or to Suwannee points (Goggin, 1950 b, p. 48, fig. 21) have been found in neighboring counties (Wilfred T. Neill, personal communication). Possibly, the lowest cultural zone at site J–5 (zone 14) belongs to this period. If not, it must belong to the succeeding or Preceramic (Early Archaic) period, earlier than 2000 B. C.

Evidence for occupation during the Orange (Late Archaic) period consists of fiber-tempered sherds found at sites J–18 and Ja–62 and the substantial deposits of zone 9 at site J–5. The last must, owing to the presence there of St. Johns Incised sherds, be considered as belonging to a transitional period during which other pottery series were replacing pottery tempered with vegetable material. Steatite vessels from central Georgia or northern Alabama and chalky pottery from peninsular Florida, which must have been carried by people, indicate widespread influences covering hundreds of miles. Apparently, the lines of communication were along river valleys, and dugout canoes may well have been utilized. Circa 1000 B. C. was not a period of isolation in the southeastern part of the United States.

For the Deptford period we have zone 6B at site J–5 as well as Deptford period sherds at sites J–18 and Ja–62. Deptford Simple Stamped sherds were found during the 1948 survey at site J–3 (Bullen, 1950, p. 118) located on the high knoll west of Pope Lake (map 9). In this period, for the first time in this area, we have definite evidence of the spread of people from the river valley to the adjacent high land.

Evidence for a Santa Rosa-Swift Creek period as a discrete entity has not been discovered in our small area. However, sherds assignable to this period were found at both sites J–18 and Ja–62. Swift Creek Complicated Stamped sherds were uncovered below the plow line at site J–3, mentioned above, during the 1948 survey (Bullen, 1950, p. 118).

For the next period, Weeden Island, we have abundant remains. Much of the pottery from both sites J–18 and Ja–62 and some from the burial mound, Ja–2, is of the Weeden Island period. Sites J–20, on the high land southwest of Tan Vat Pond, and J–37, a half mile northwest of that pond, are also Weeden Island sites. Other Weeden Island sites were found during the 1948 survey but were located to the north of Kemps Landing.

A Kolomoki period must equate with some part of the Weeden Island time span. Irrespective of the final placing of this period, which should be settled by more radiocarbon dates when they are available, site Ja–63 clearly covers that period. Our radiocarbon date of about 350 A. D. suggests Kolomoki complicated stamped sherds belong very early in the Weeden Island time span. During part of its useful life, the burial mound (site Ja–2) received Kolomoki interments, to judge from pottery found at that mound.

Believed to be very late Weeden Island in date are sites in the Chattahoochee River region producing only Wakulla Check Stamped and plain sherds. One such site is J–6 located on high land a mile to the northwest of the northwestern end of Pope Lake. Another is located on the northwest side of Tan Vat Pond. Both are very small sites. Site J–3 also produced, during the 1948 survey, 47 sherds of Wakulla Check Stamped pottery but no other typical Weeden Island period sherds (Bullen, 1950, p. 118).

Five sites on or in the present river levee belong to the Fort Walton period: J–2, a large site located where the Jim Woodruff Dam meets the west side of the Apalachicola River; J–5, discussed earlier; J–7, about a mile northwest of J–5; and J–9 and J–10, located at Kemps Landing (Bullen, 1950, fig. 1, p. 102). These sites are all located in the same sand-silt deposit, below the top of the natural levee, and undoubtedly represent agricultural communities. No sites of this period are found on the neighboring high land.

The next period, Leon-Jefferson, is one which shows influences from the chain of Spanish missions established across north Florida in the 17th century. At site J–3, on high land west of Pope Lake (fig. 1), many sherds typical of the Leon-Jefferson period were found during the 1948 survey (Bullen, 1950, p. 118). It is possible it may be the location of the most western of the Spanish missions (see also Boyd, this volume).

The last Indian period of the region we have called "Lower Creek." Sites of this period are characterized by Chattahoochee Brushed pottery and fragments of early 19th century English stoneware (blue-edged Staffordshire). In the report of the 1948 survey we suggested these sites represented proto-Seminole people (Bullen, 1950; 1953). More recent work in Florida indicates this prediction to have been well founded (Goggin, 1953; MS.).

Twenty-two Chattahoochee Brushed sherds found at site J–3, during the 1948 survey, indicate either occupancy of that site during the Lower Creek period or the presence there of Indians from further north during the Leon-Jefferson period. For more conclusive Seminole occupancy of the region we must go further north. At Port Jackson, 9 miles northwest of the Jim Woodruff Dam and within the known 1823 Seminole reservation of Econchatimico, three sites (J–28, J–29, and J–30) produced Chattahoochee Brushed pottery and early 19th century stoneware during the 1948 survey (Bullen, 1950, p. 120).

The Port Jackson area was visited twice during the 1953 work, once in company with Dr. Mark F. Boyd, of Tallahassee. A small gun flint and additional Chattahoochee Brushed sherds were found at these sites and in fields about a half mile south of Port Jackson but still within the limits of Econchatimico's land (for further information see Boyd, paper No. 13, this bulletin).

The Forks area, due to its geographical situation astride what might be referred to as an aboriginal U. S. Route 1, has been the scene of much human activity. This activity, which occurred over thousands of years, has left behind evidences of its presence. Salvaging these data has added an important chapter to the prehistory of the southeastern part of the United States.

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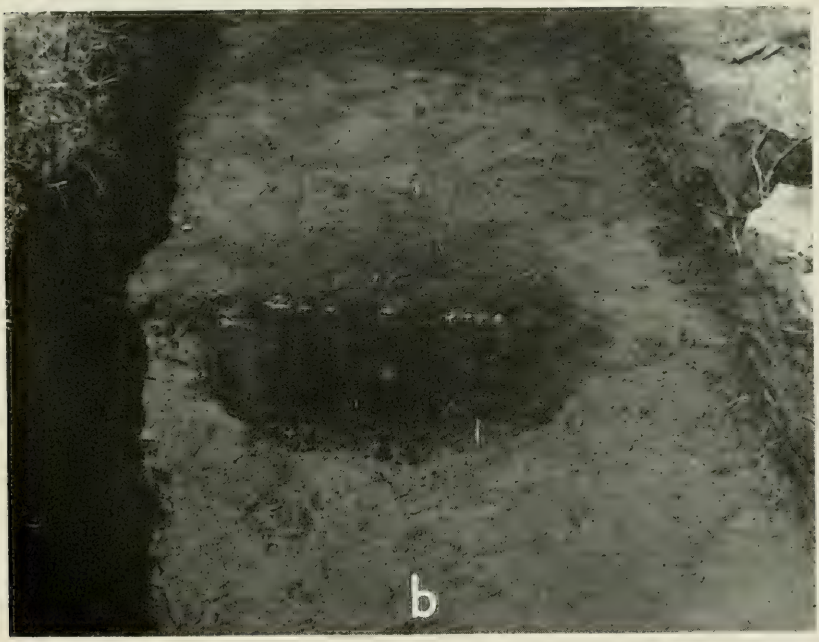
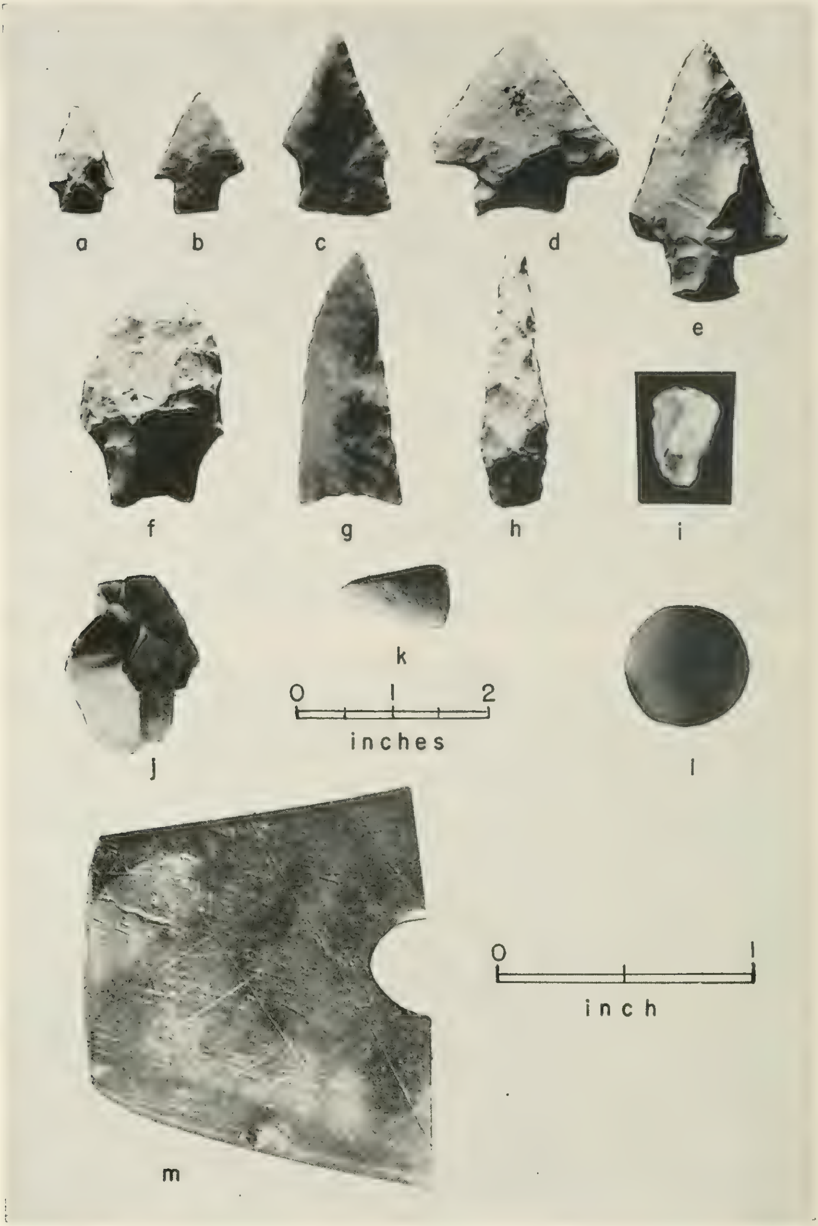


a, View of Chattahoochee River bottom land, looking north from site Ja–62. *b*, Portion of test trench showing partially excavated pit, site Ja–62.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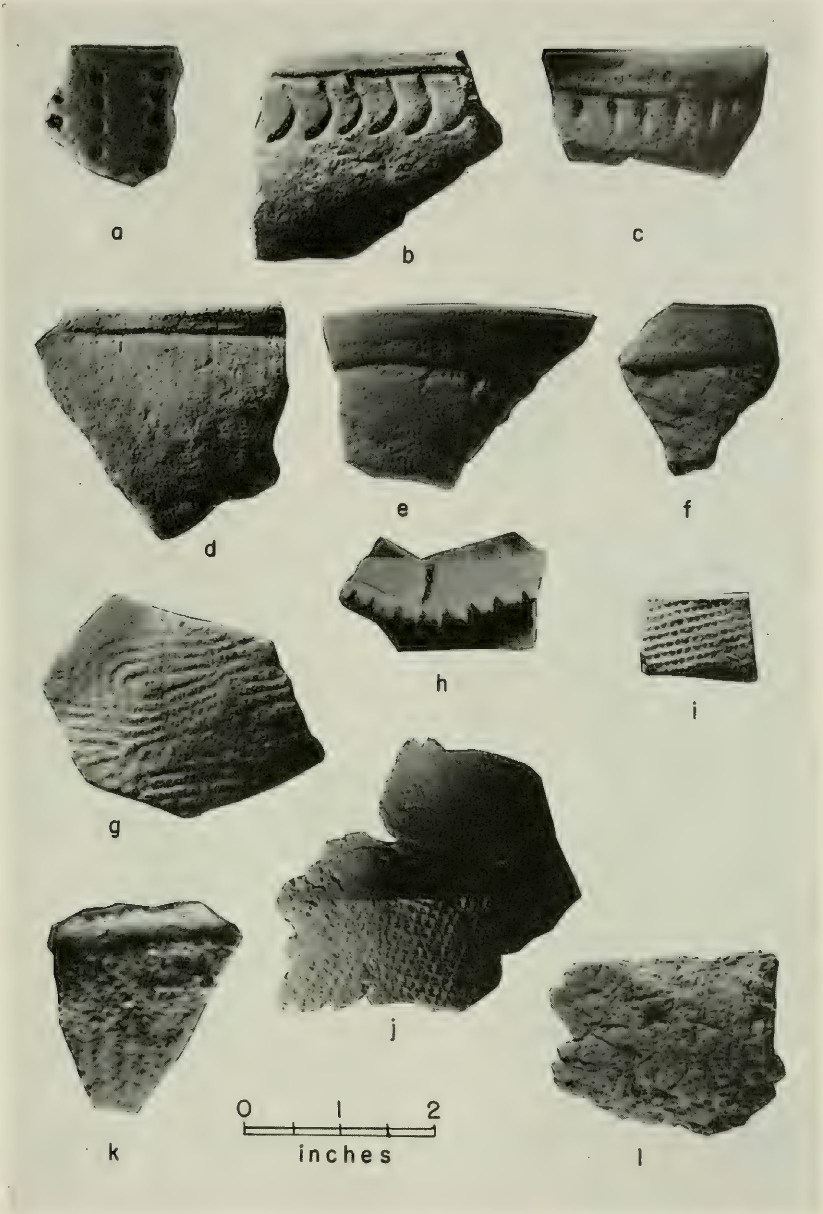
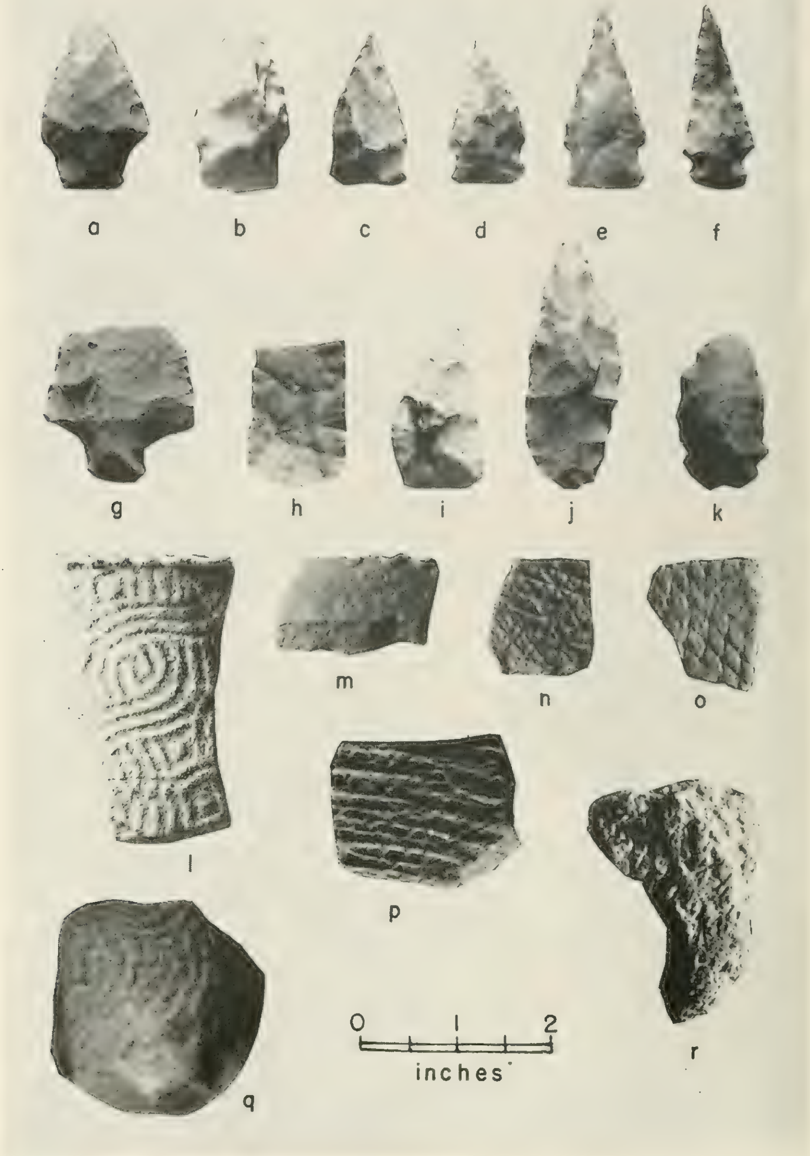
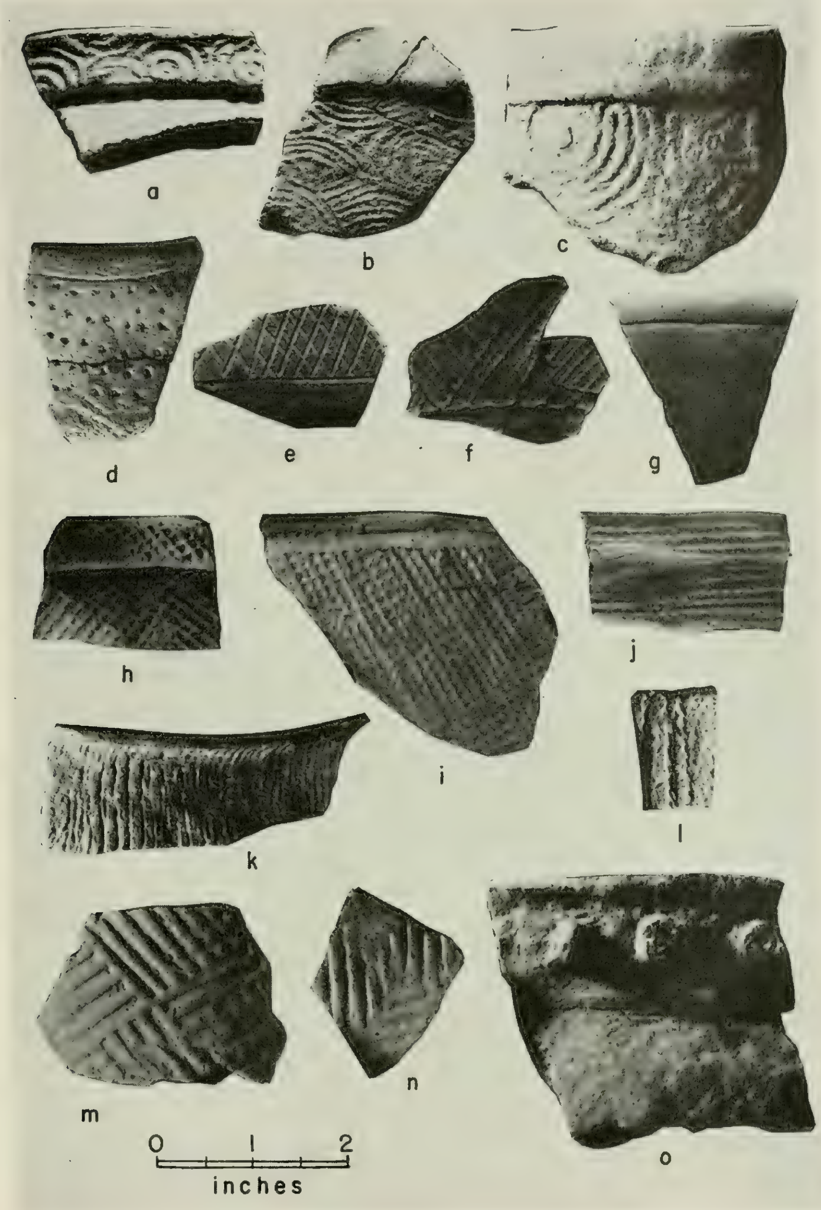
Stone specimens from site J–18. *a-e*, Projectile points; *f-g*, knives; *h*, drill; *i*, scraper; *j*, side scraper; *k*, fragment of steatite ornament; *l*, quartzite disk (unworked); *m*, gorget fragment showing incised decoration.



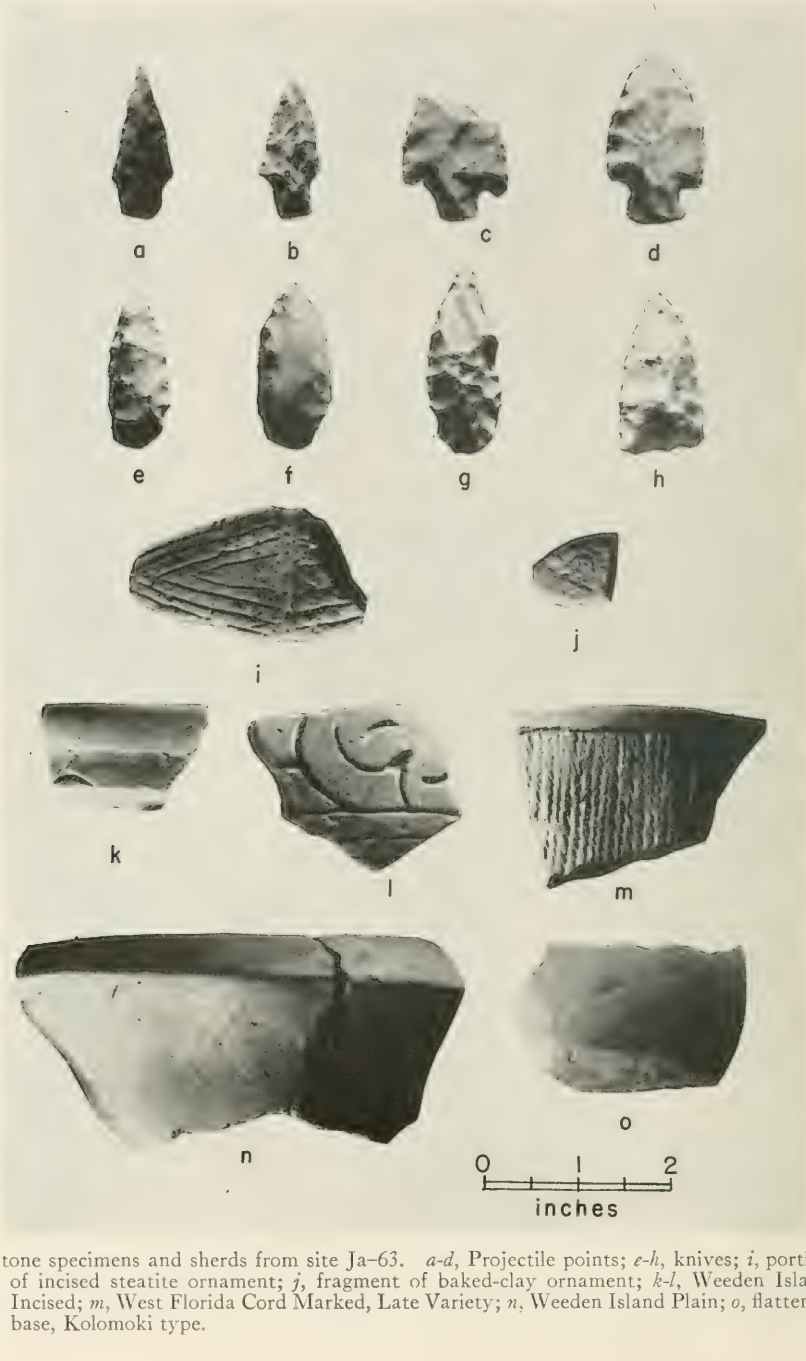
Sherds from site J–18. *a-c*, Carrabelle Punctated; *d-e*, Weeden Island Plain; *f*, Swift Creek Complicated Stamped, Late Variety; *g;* Swift Creek Complicated Stamped, Early Variety; *h;* Weeden Island Incised; *i-j*, Wakulla Check Stamped; *k*, Dunlap Fabric Marked; *l*, Orange Plain.



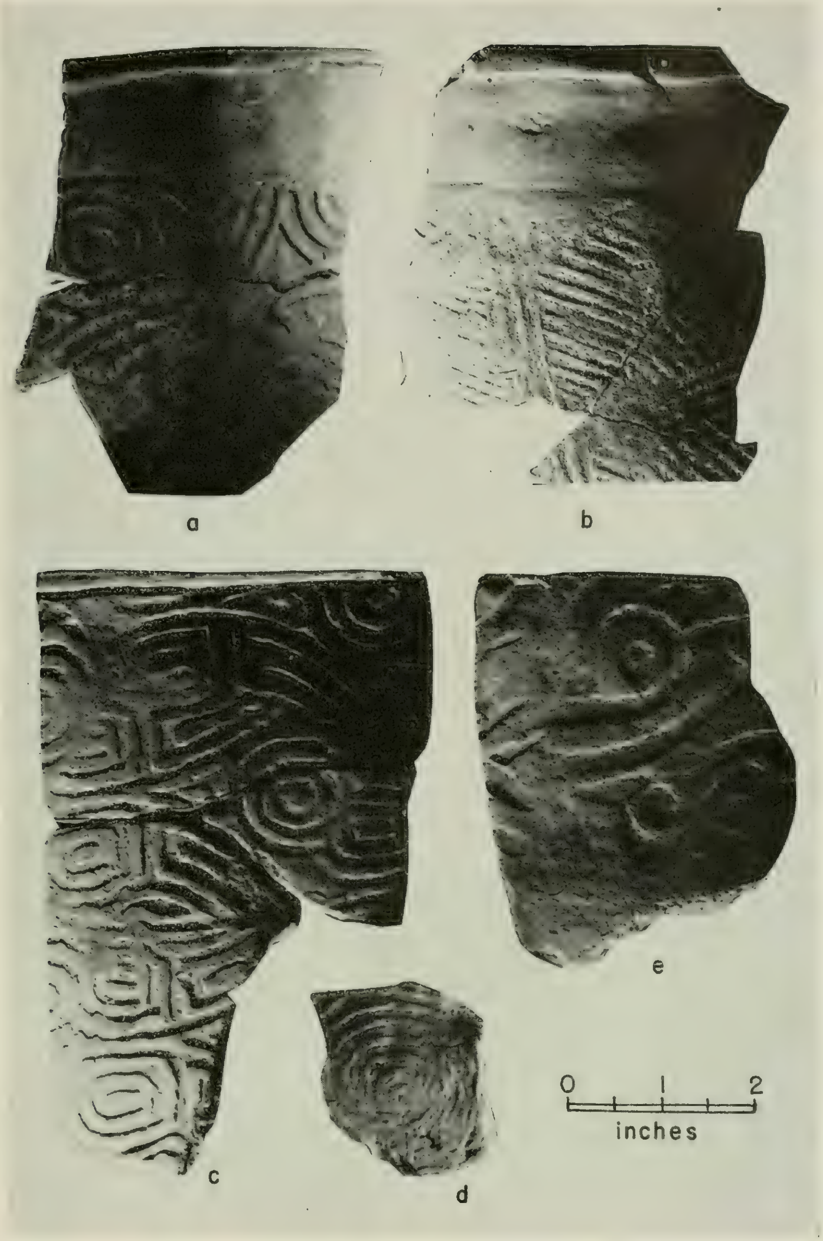
Stone tools and sherds from site Ja–62. *a-g*, Projectile points; *h-k*, knives; *l*, Swift Creek Complicated Stamped, Early Variety; *m*, Franklin Plain; *n*, Deptford Check Stamped; *o*, net-impressed; *p*, Deptford Linear Check Stamped; *q*, Swift Creek Complicated Stamped, tetrapodal base; *r*, Orange Plain.



Sherds from site Ja–62. *a-c*, Swift Creek Complicated Stamped, Late Variety; *d*, Carrabelle Punctated; *e*, Keith Incised; *f*, Carrabelle Incised; *g*, Weeden Island Plain; *h-j*, Wakulla Check Stamped; *k-l*, cord-marked; *m-n*, St. Andrews Complicated Stamped; *o*, Lake Jackson Plain.



Stone specimens and sherds from site Ja–63. *a-d*, Projectile points; *e-h*, knives; *i*, portion of incised steatite ornament; *j*, fragment of baked-clay ornament; *k-l*, Weeden Island Incised; *m*, West Florida Cord Marked, Late Variety; *n*, Weeden Island Plain; *o*, flattened base, Kolomoki type.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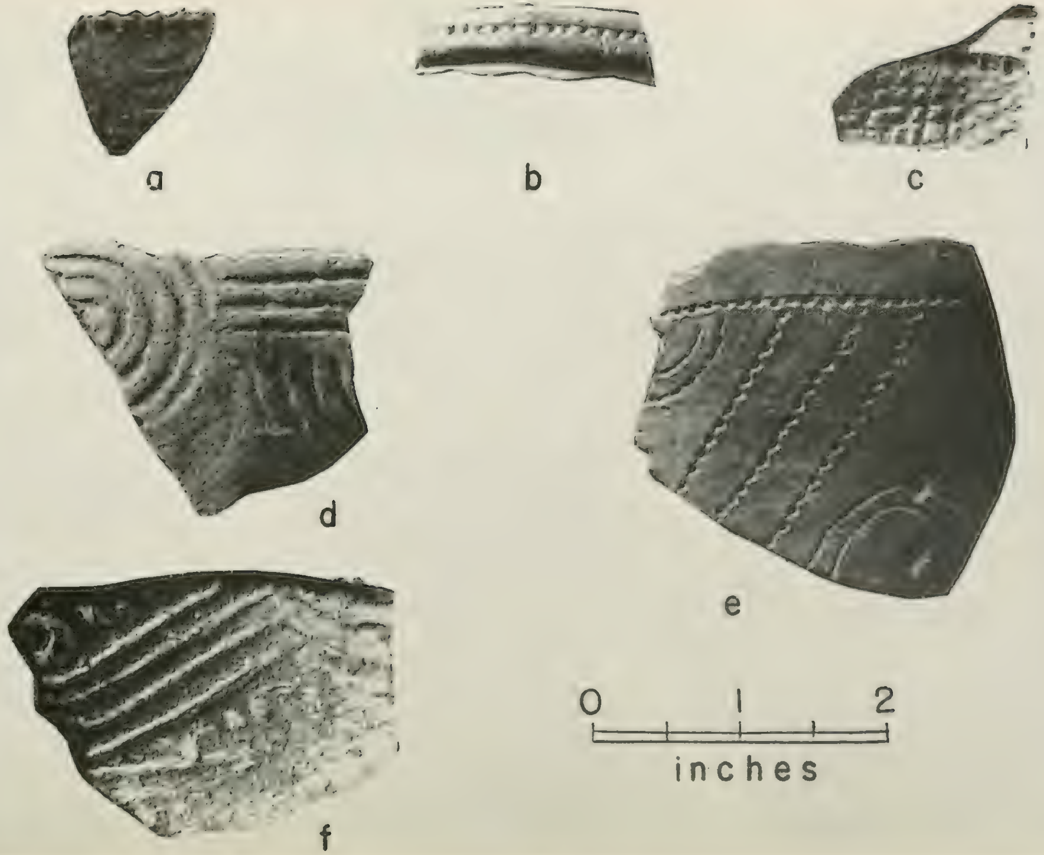
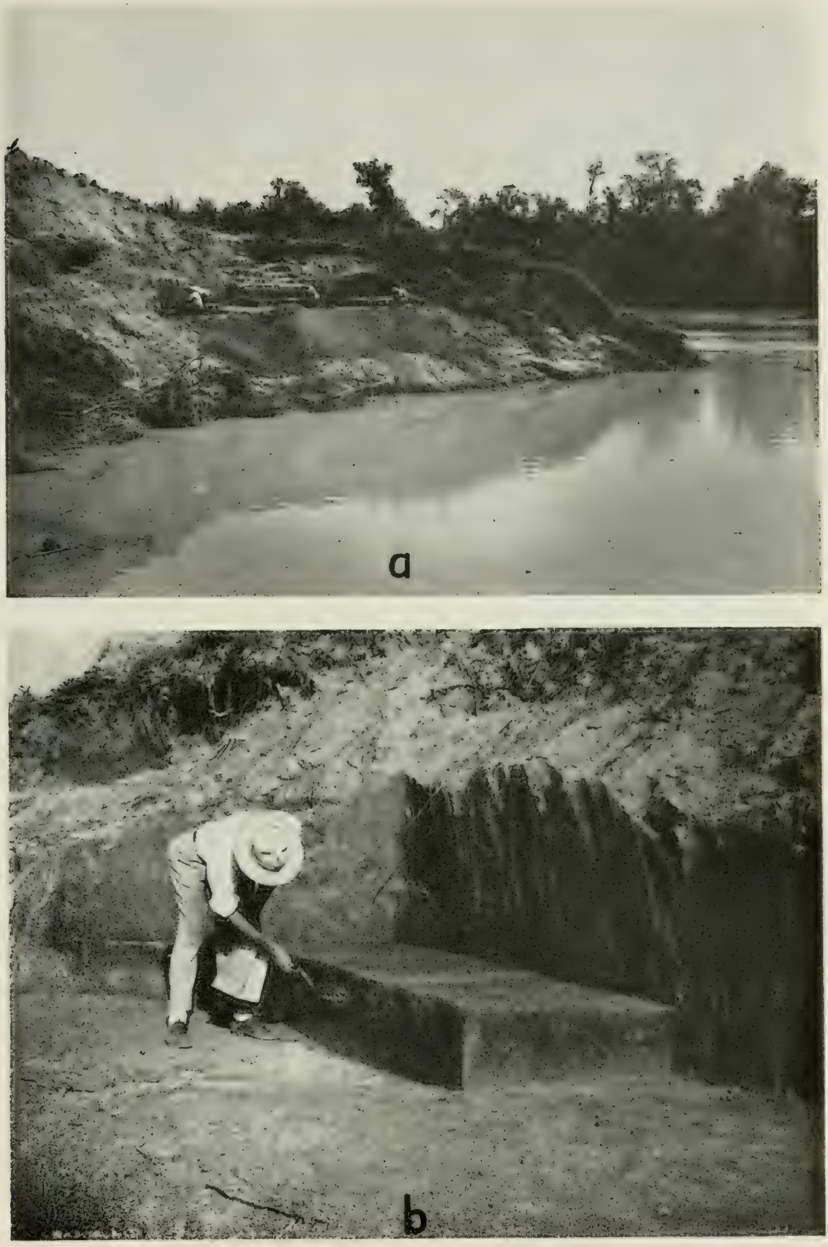
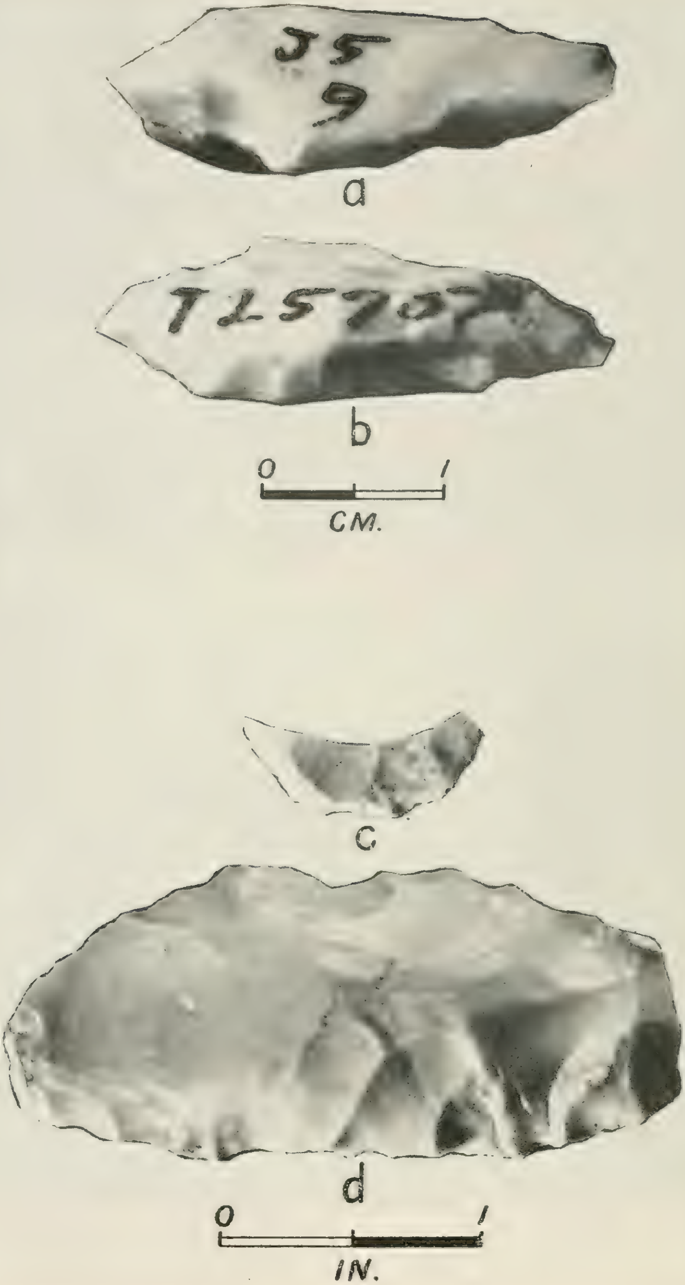
Sherds from site Ja–63. *a-d*, Kolomoki Complicated Stamped; *e*, Blakely Complicated Stamped.



Sherds from site Ja–2, Moore's mound near Kemps Landing. *a*, Swift Creek Complicated Stamped, Early Variety; *b*, unique punctated rim strip; *c*, combination check-stamped and punctated; *d*, *f*, Kolomoki Complicated Stamped; *e*, Weeden Island Punctated.



a, Excavating in zone 9, site J–5, Chattahoochee River in background. *b*, Portion of zone 9, site J–5, showing mussel shells in situ.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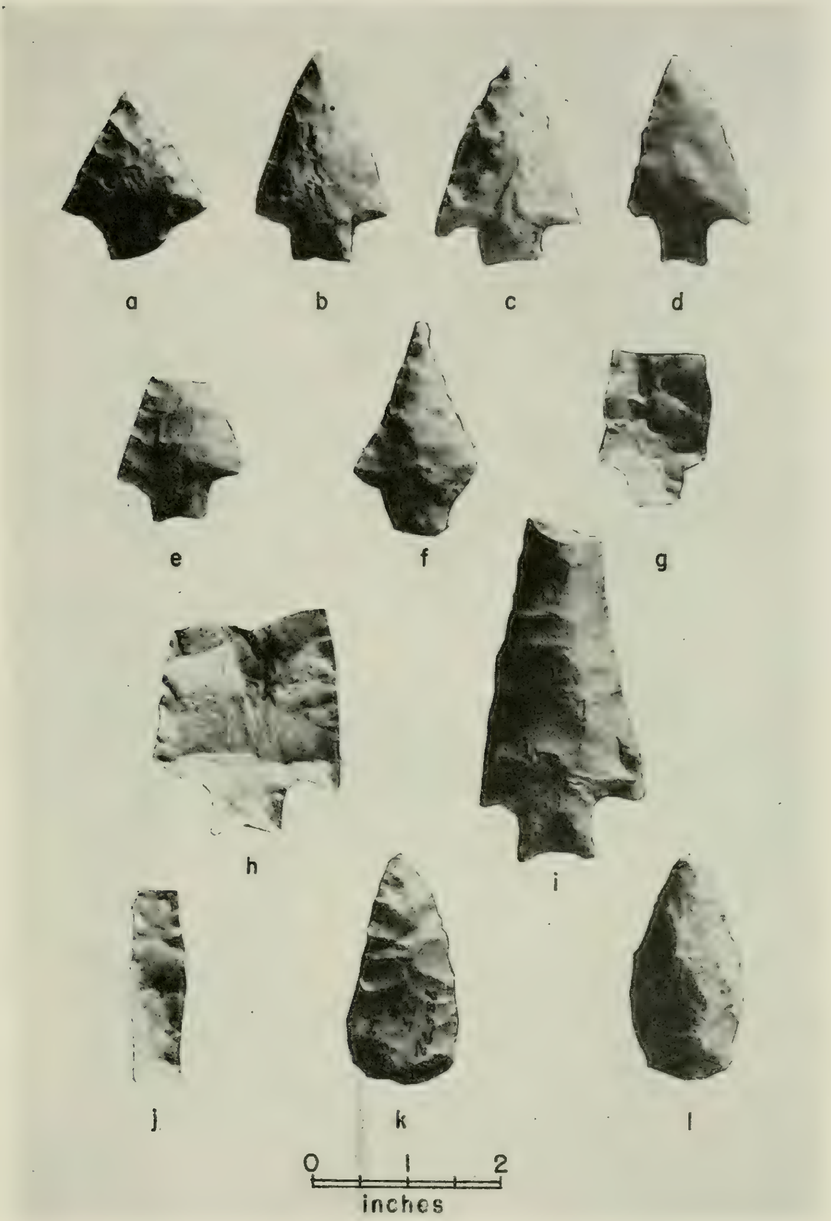
a, *b*, Graver from zone 9, site J–5. *c*, *d*, Knife and fragment of thumbnail scraper from zone 14, site J–5.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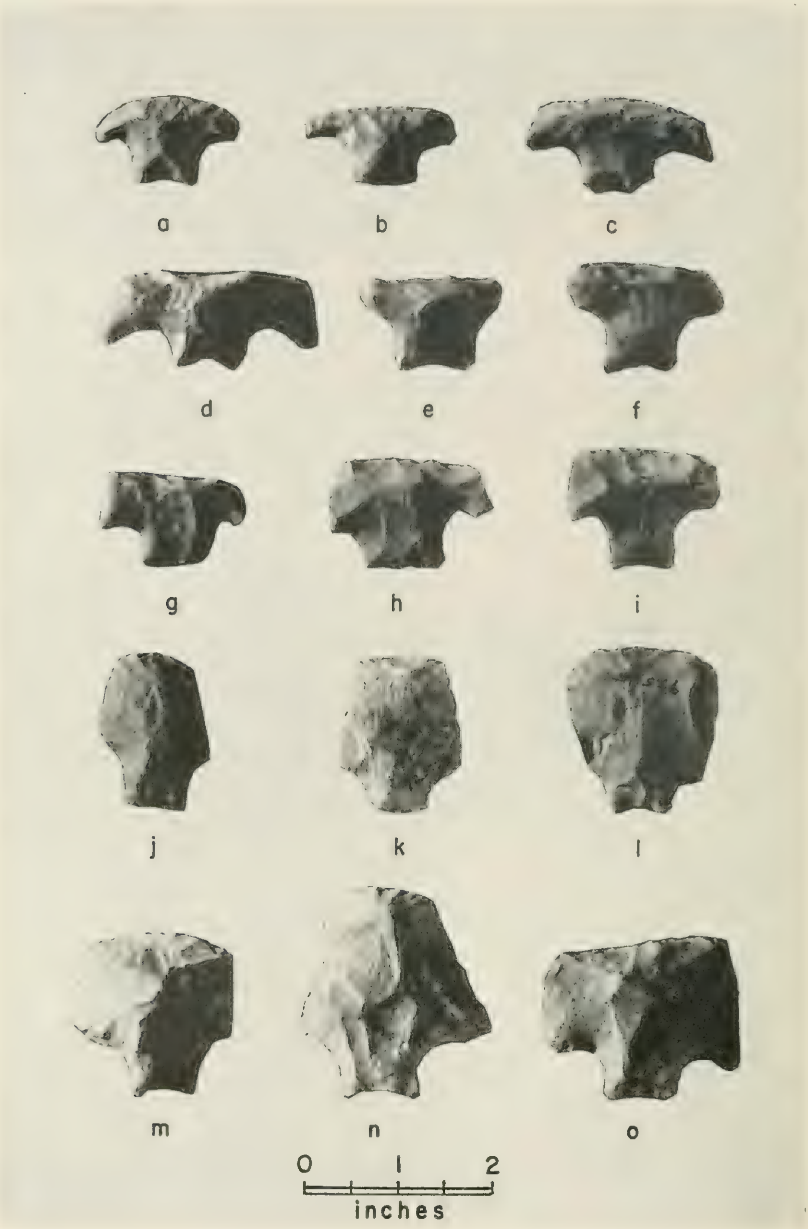
Stone tools from zone 9, site J–5. *a-i*, Projectile points; *j*, drill; *k-l*, knives.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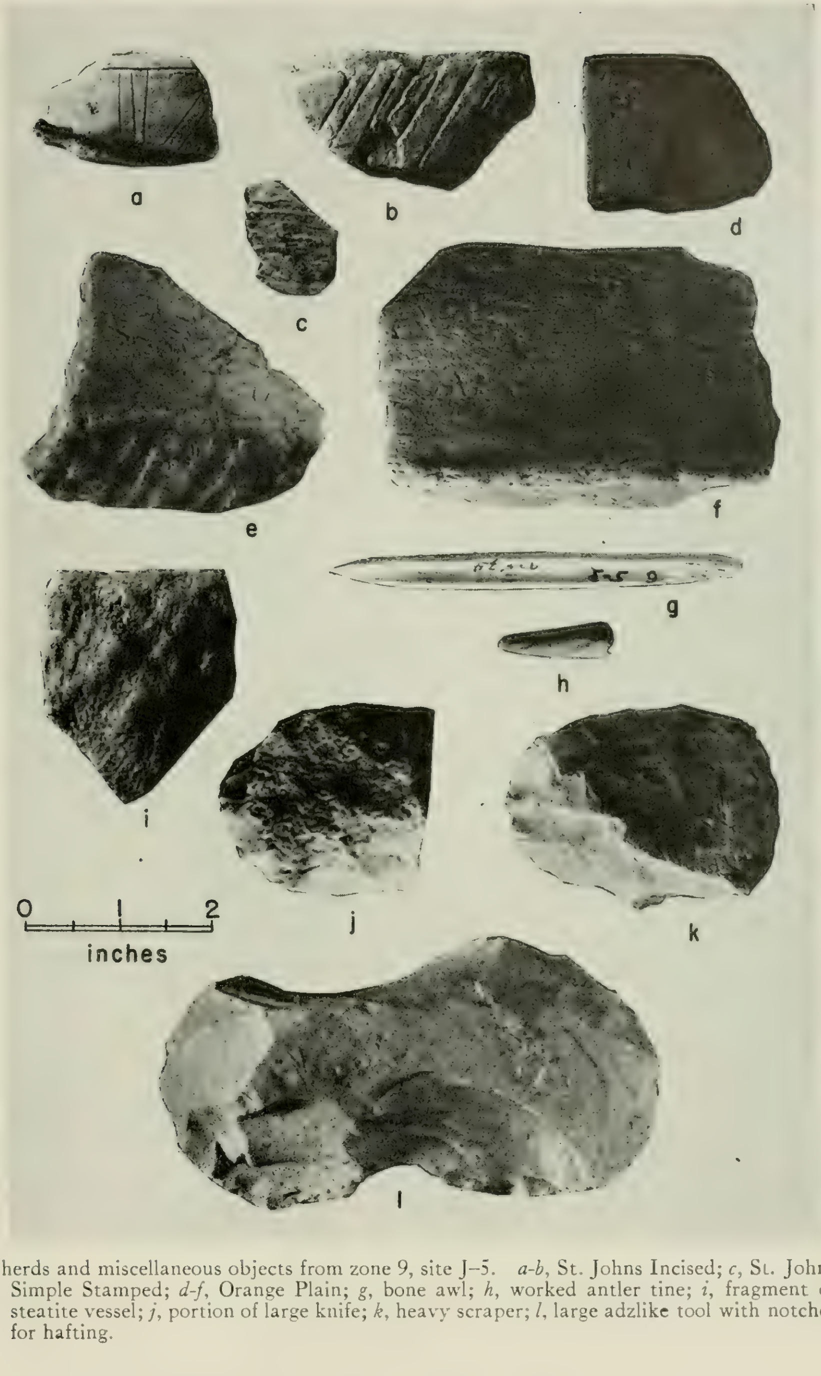
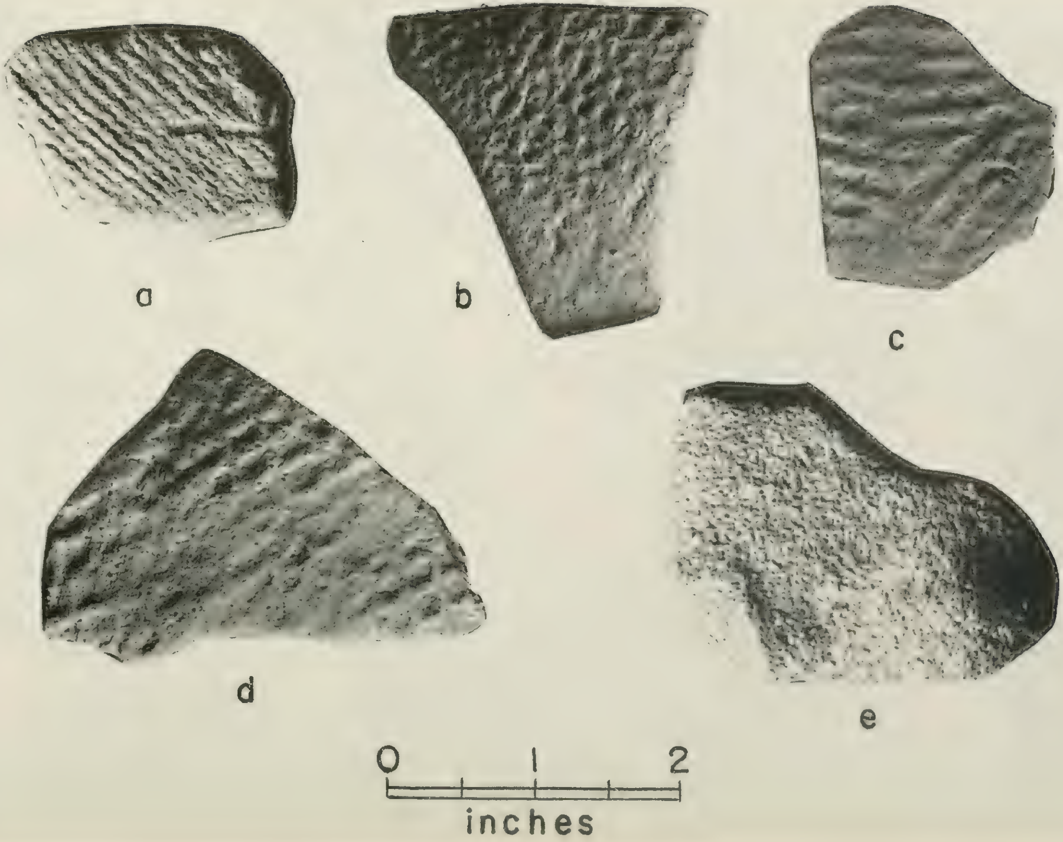
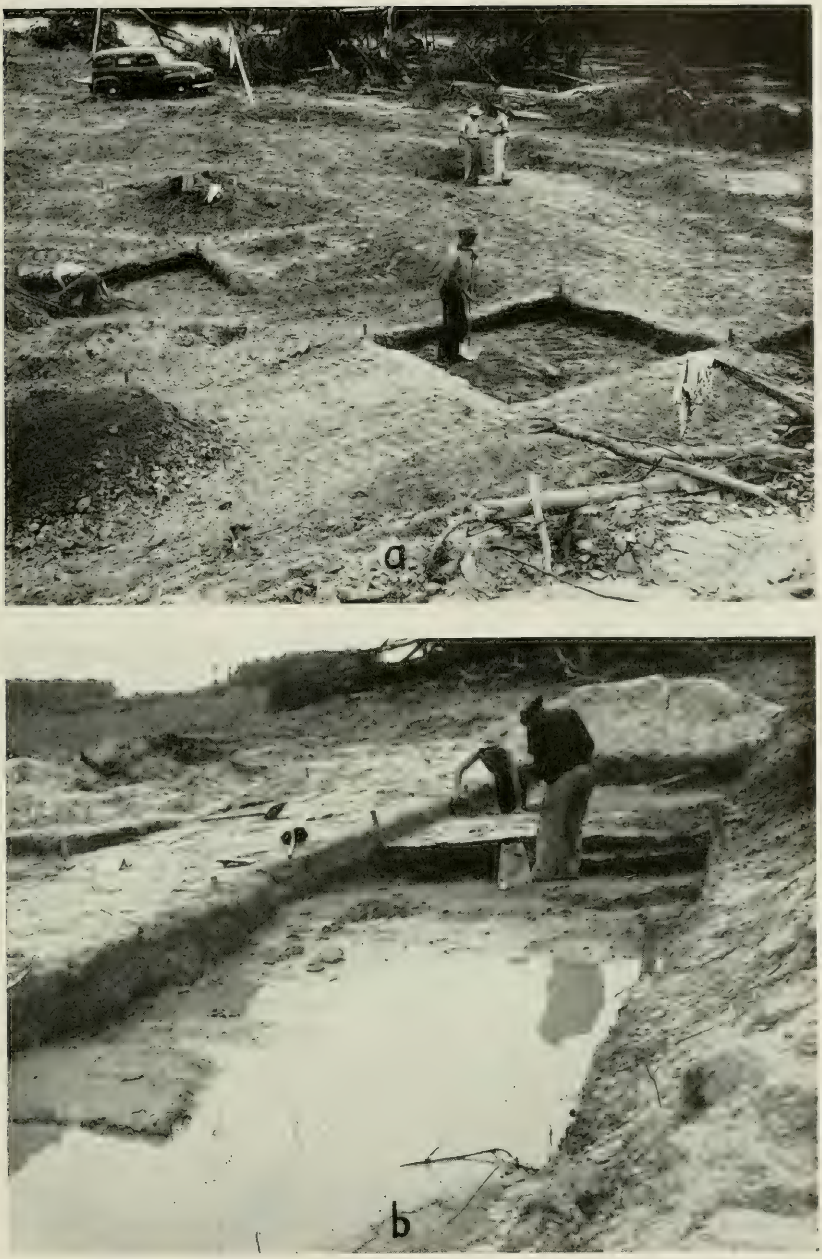
Hafted scrapers from zone 9, site J–5.



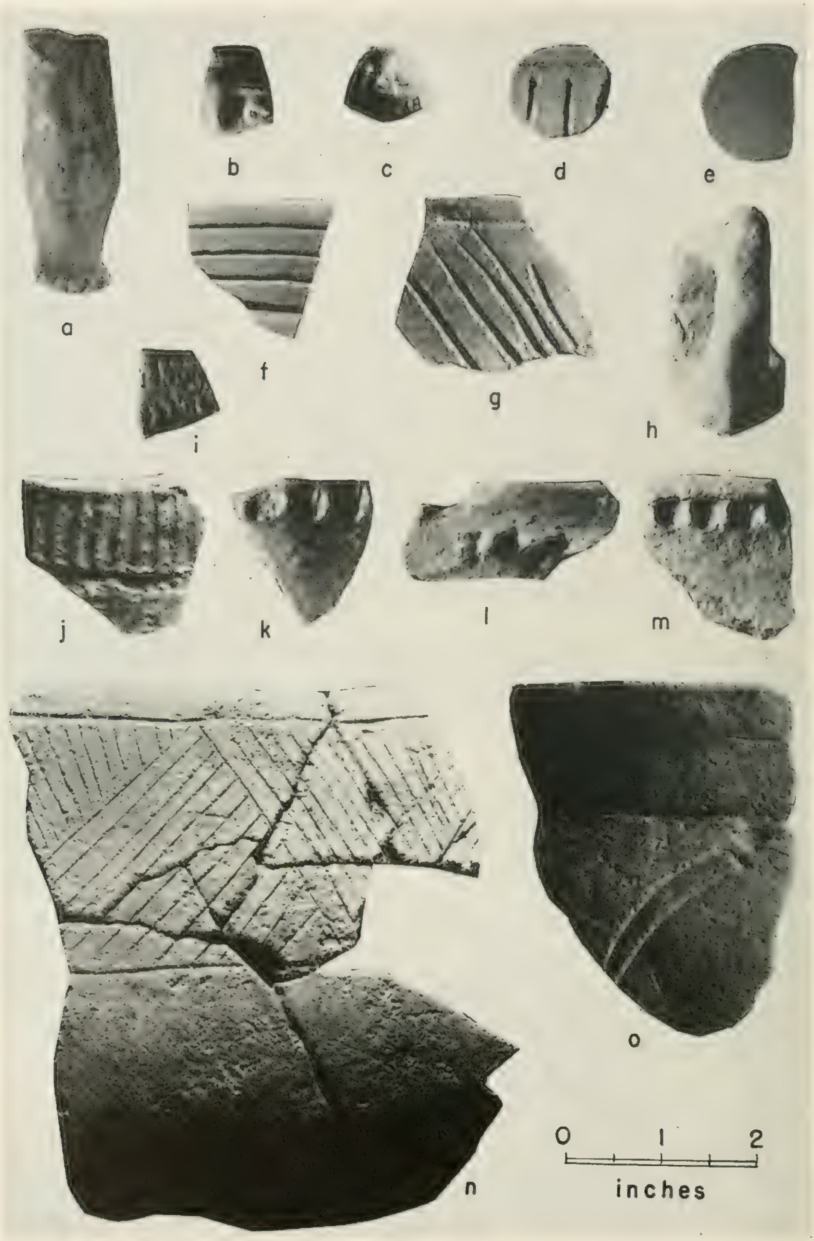
Sherds and miscellaneous objects from zone 9, site J–5. *a-b*, St. Johns Incised; *c*, St. Johns Simple Stamped; *d-f*, Orange Plain; *g*, bone awl; *h*, worked antler tine; *i*, fragment of steatite vessel; *j*, portion of large knife; *k*, heavy scraper; *l*, large adzlike tool with notches for hafting.



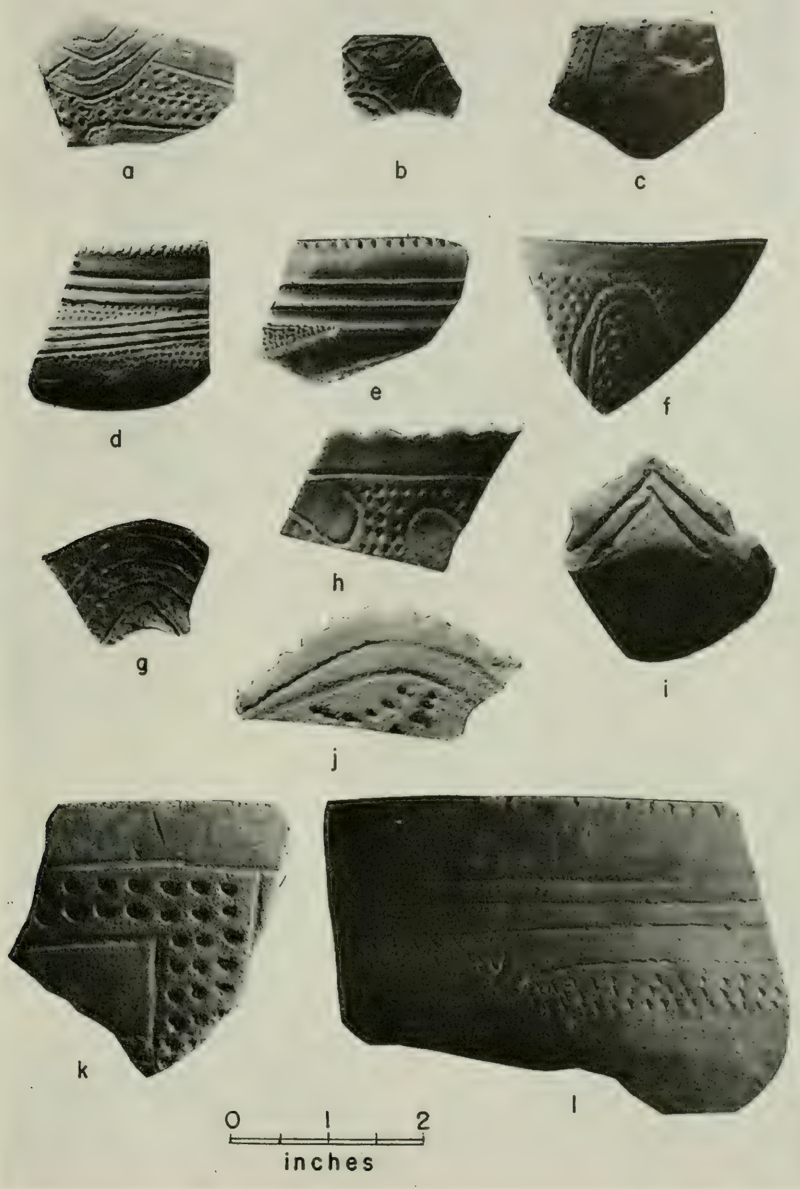
Sherds from zone 6B, site J–5. *a*, Deptford Simple Stamped; *b-d*, Deptford Linear Check Stamped; *e*, tetrapodal base.



a, Start of work in Fort Walton zone, site J–5; Chattahoochee River in background.
b, Trench in Fort Walton zone, site J–5, after rain.



Sherds from Fort Walton zone, site J–5. *a*, Miniature human leg; *b-c*, owl-face adornos; *d-e*, pottery disks; *f*, Fort Walton Incised; *g*, Marsh Island Incised; *h*, handle, Lake Jackson Plain; *i*, cob-marked; *j-m*, Lake Jackson Plain, decorated rims; *n*, Marsh Island Incised; *o*, Pensacola Incised.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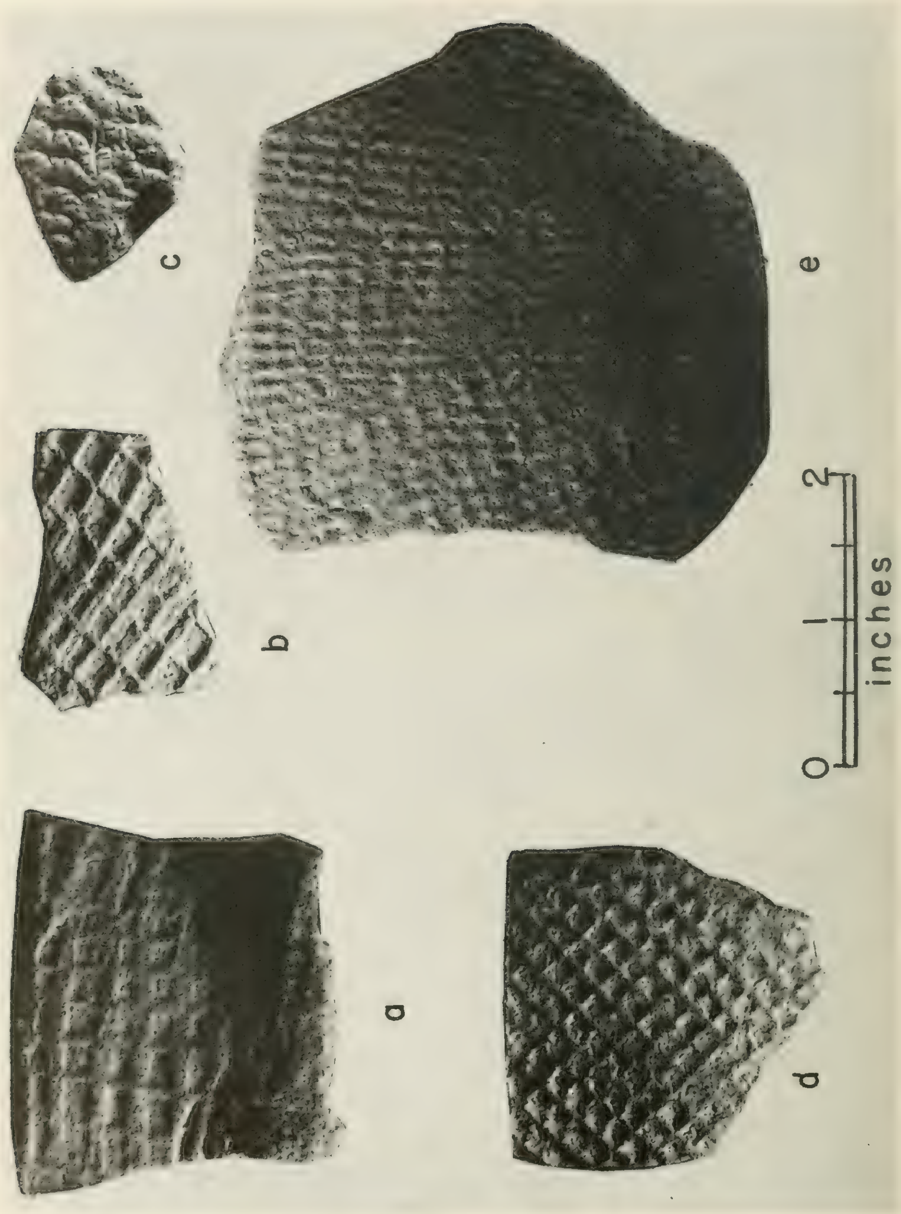
Sherds from Fort Walton Zone, site J–5. *a-c*, Safety Harbor Incised; *d-l*, Fort Walton Incised.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Sherds from site G-4. *a-b*, Unnamed check stamped; *c*, fingernail indented; *d-e*, Wakulla Check Stamped.

APPENDIX

LIST OF REPORTS, ARTICLES, AND NOTES RELATING TO THE SALVAGE PROGRAM PUBLISHED IN OTHER SERIES

ADAMS, WILLIAM RICHARD.

1946. Archeological survey of Martin County. Indiana Hist. Bull., vol. 23, No. 6, pp. 195–224.

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1949. Stratton-Wallace Site. Ann. Rep., Ohio State Archeol. and Hist. Soc., pp. 11–12.

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1949. Recent archeological research in Oklahoma, 1946–1948. Chronicles of Oklahoma, vol. 27, No. 3, autumn 1949, pp. 303–312.

1949. Archeological research in Oklahoma during 1947. Proc. Fifth Plains Conference for Archeology, Note Book No. 1, Lab. Anthrop., Univ. Nebraska, pp. 6–7.

1949. Archeological excavations at the Harlan Site, Fort Gibson Reservoir, Cherokee County, Oklahoma. Plains Archeological Conference News Letter, vol. 3, No. 1, pp. 3–15.

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1950. Birdshead Cave, a stratified site in the Wind River Basin, Wyoming. Amer. Antiq., vol. 15, No. 3, pp. 187–196.

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1956. Some outstanding finds from Table Rock Reservoir area. Missouri Archaeol. Soc. News Letter, No. 99, pp. 5–7.

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